

***A CLASS III
CULTURAL AND PALEONTOLOGICAL RESOURCE INVENTORY
OF THE
OTTER CREEK STUDY AREA,
POWDER RIVER COUNTY, MONTANA***

VOLUME I

**Prepared for
Montana Department of Natural Resources and Conservation**

BLM Fieldwork Authorization Number MT-020-04-445

By

**David Ferguson and Garren Meyer
With contributions by
Jennifer Petersen**

Of

**GCM Services, Inc.
1003 S. Montana Ave.
Butte, MT 59701**

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ABSTRACT

Montana Department of Administration (DOA) and Department of Natural Resources and Conservation (DNRC) contracted with GCM Services, Inc., to conduct an intensive pedestrian inventory of archaeological, historical and paleontological resources on approximately 7,720 acres of State Mineral Estate lands located in Powder River County, Montana. The project was conducted in anticipation of future coal resource development. No formal National Register of Historic Places (NRHP) recommendations are made for the sites discussed in this project. Site testing and significance assessments will have to be addressed as a separate project, should a proponent desire to develop the tracts in the future.

The project lies in the Otter Creek valley in western Powder River County. The 7.5-minute USGS maps, *Willow Crossing* (1966), *Coleman Draw* (photo-revised 1985), *Yager Butte* (photo-revised 1985), and *King Mountain* (1995) encompass the project area. Surface ownership of the study area includes Bureau and Land Management (BLM), Montana School Trust Lands and ten private landowners. Inventory of BLM land was conducted under BLM Permit No. 65089. The field inventory was conducted from June 9 to 29, 2004 by GCM Services, Inc.

A total of 124 sites and 90 Minimal Activity Loci (MALs) were identified within the project area. Site density was found to be almost identical to that of recent studies of similar scale conducted in neighboring Rosebud County. For general comparison purposes, the average density of cultural manifestations on this project is about 10.4 sites and 7.5 MALs per square mile, or one cultural manifestation every 36 acres.

The majority of the sites will require some additional testing to formally evaluate them for the NRHP prior to any action that would impact them.

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CHAPTER 1. INTRODUCTION

Montana Department of Administration (DOA) and Department of Natural Resources and Conservation (DNRC) contracted with GCM Services, Inc., to conduct an intensive pedestrian inventory of cultural and paleontological resources on approximately 7,720 acres of State Mineral Estate lands located in Powder River County, Montana. The project was conducted in anticipation of future coal resource development. The inventory was designed to locate all cultural resources 50 years old and older and all paleontological resources within the study area. No subsurface testing was conducted as part of this project. No formal National Register of Historic Places (NRHP) recommendations are made for the sites discussed in this report. Site testing and significance assessments will have to be addressed as a separate project, should a proponent desire to develop the tracts in the future. Historic and prehistoric contexts for the study area were not required under this contract and will be prepared in conjunction with site testing and NRHP evaluations in the event of proposed development.

The project lies in the Otter Creek valley in western Powder River County. The 7.5-minute USGS maps, *Willow Crossing* (1966), *Coleman Draw* (photo-revised 1985), *Yager Butte* (photo-revised 1985), and *King Mountain* (1995) encompass the project area. Surface ownership of the study area includes Bureau and Land Management (BLM), Montana School Trust Lands and ten private landowners. Inventory of BLM land was conducted under BLM Permit No. 65089 (BLM Fieldwork Authorization Number MT-020-04-445). Table 1-1 lists the legal description of the inventoried areas. Figure 1-1 shows the general location of the project based upon the Montana Department of Transportation's "Montana Highways Map." Figure 1-2 shows the project parcels on the Custer National Forest 1:100,000 scale "Forest Visitor's Map."

The field inventory was conducted from June 9 to 29, 2004 by GCM Services, Inc. Field personnel were David Ferguson, Garren Meyer, Britt Johnson, and Walker Vaught. David Ferguson served as Principal Investigator and Project Director. Ferguson, Meyer, and Jennifer Petersen prepared this report. Patsy White assisted with the report's production. The results of a Class III survey conducted in early June by DNRC for coal exploration drilling is also included (see Appendix A).

This report is comprised of two volumes. Volume I presents a physical description of the project area, the results of the Class I literature review, the methods and techniques used in the investigation and the results of the fieldwork. Volume II contains site and isolated find / Minimal Activity Loci (MAL) forms. The site forms include site sketch maps, site photos and artifact drawings/photos.

Table 1-1. The legal description of the inventoried areas.

Township 3 South, Range 45 East	Surface Owner	Approximate Acreage
Section 36: All	State	640
Township 4 South, Range 45 East		
Section 2: All	Private	640
Section 6: All	BLM	680
Section 8: All	Private	640
Section 10: N1/2NE, NENW, S1/2SE, SESW	Private	240
Section 12: All	Private	660
Section 14: All	Private (W1/2) BLM (E1/2)	540
Section 16: All	State	600
Section 18: All	Private	640
Section 20: All	Private / BLM (N1/2N1/2)	680
Section 22: W1/2W1/2, N1/2NE, SENE	Private	360
Section 24: All	BLM	640
Section 26: All	Private	740
Section 36: All	State	680
		Total 7,720

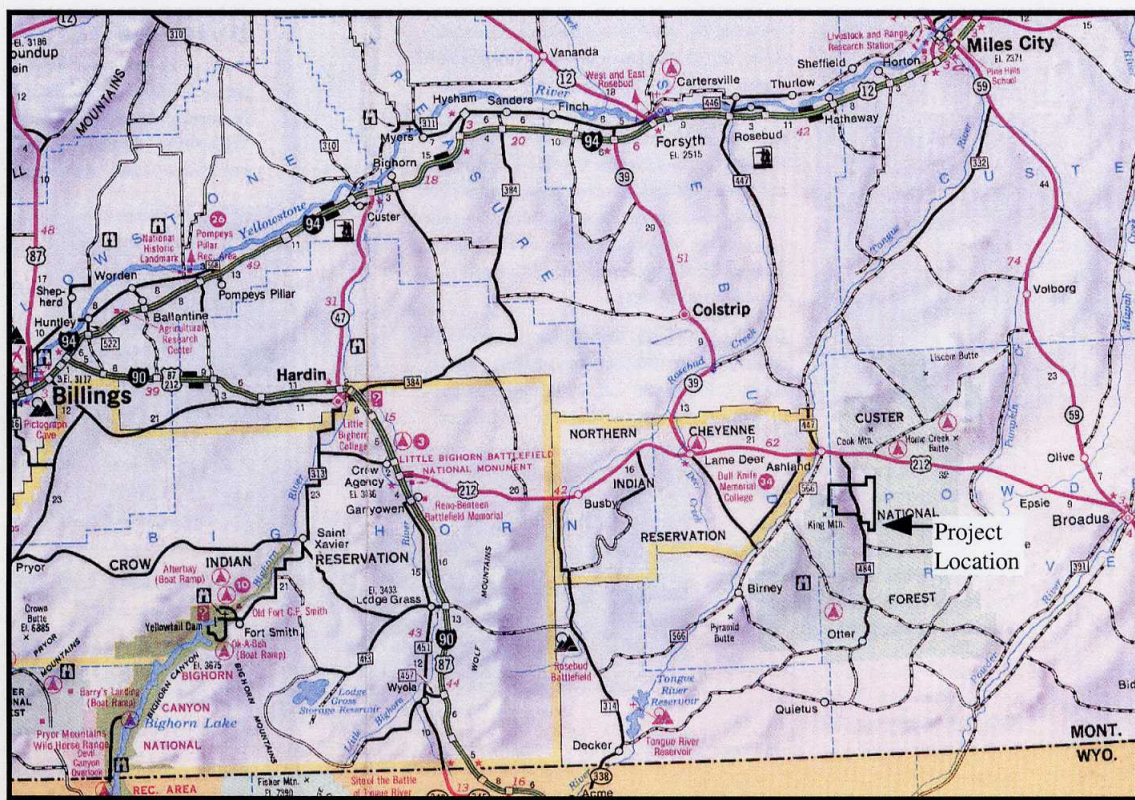


Figure 1-1. The general location of the project based upon the Montana Department of Transportation's "Montana Highways Map".

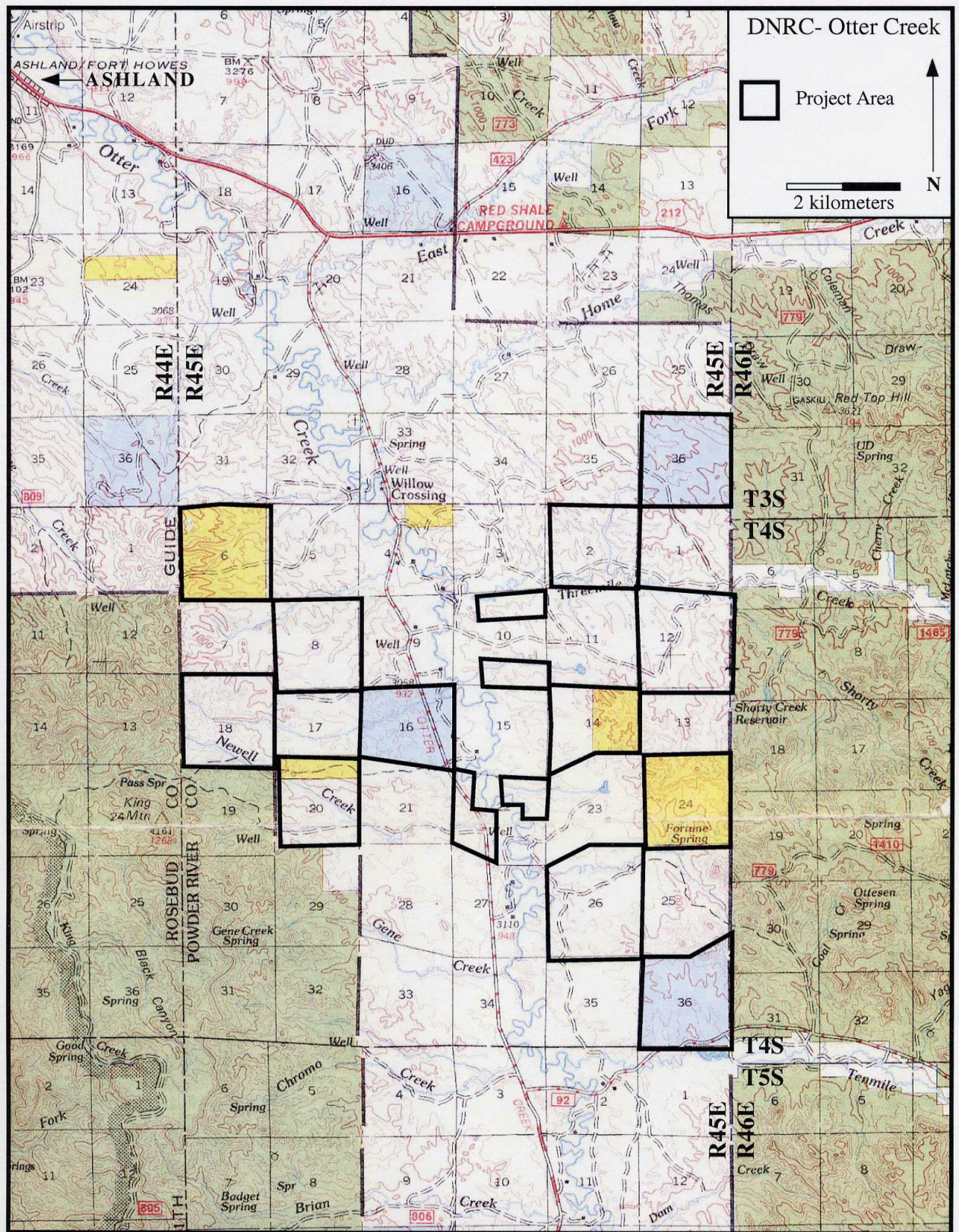


Figure 1-2. The Project Area on the Custer National Forest 1:100,000 scale "Forest Visitor's Map".

CHAPTER 2. ENVIRONMENTAL SETTING

Pine Breaks

The project area lies within a physiographic region commonly called the Pine Breaks. The Pine Breaks area is a continuation of a physiographic system of mountain-valley-foothills that, in effect, bridges a gap between the high mountain regions of the west and the plains to the east. It covers an area of approximately 100,000 km². Although lower in elevation, the area offers advantages similar to the mountains without their difficulties, e.g., rugged terrain, seasonal access problems, high winds and deep snow. The general vegetation, fauna, soils and climate are all similar to the open plains. However, the Pine Breaks offer many advantages over the open plains. These include shelter from the wind, an available wood supply for fuel, sandstone for dwelling construction and ready-made shelter, abundant lithic material for stone tool manufacture, a relatively abundant water supply, and a diversity of ecological situations that provide greater variety of faunal and floral species within relatively easy access. These factors are of considerable significance to the adaptive strategies of prehistoric populations. The Pine Breaks area drains northward into the Yellowstone River. The primary drainages are the Tongue and Powder Rivers that have their headwaters in the Bighorn Mountains. Along the way north, these rivers are nourished by numerous small streams flowing from springs and seeps originating in the higher elevations of the Wolf, Rosebud, and Little Wolf Mountains and within certain areas of the Custer National Forest. Consequently, water (although sometimes containing salts that make it cathartic and foul-tasting) is relatively accessible throughout the Pine Breaks area. Many of the smaller streams are seasonal and intermittent, flowing most profusely in the spring and often drying up or going underground in the late summer months. The availability of water is related to the coal beds which act as aquifers throughout the Powder River Basin.

Hydrology

The streams in the drainage bottoms within the project area are ephemeral and/or intermittent. Otter Creek is the only flowing stream in the project area, and even this creek becomes intermittent with irrigation use. The major tributaries are Tenmile Creek and Threemile Creek, both flowing east-to-west into Otter Creek and both were dry at the time of the survey. It would be expected that campsites be located at or near springs. This is certainly the case at Fortune Spring in Section 14. This was the most productive spring encountered in the project area during this year of severe drought. The sites in that area were generally extensive and contained substantial cultural remains. Springs through time migrate up and down stream channels depending on a combination of erosion and water table characteristics. Many sites found on terraces along dry arroyos were probably located next to ancestral springs or seep that are now gone.

Soils

The parent materials for the soil are quite diverse throughout the study area. The reason for this diversity is the wide range of material types located in the Fort Union Formation, which is a combination of shale and sandstone. Added to this factor are the vast areas in which burning coal metamorphosed the overlying sediments. As a result, within a very small area it is possible to have sandy loam, loam, clay loam and loam that is channery (i.e., loam developed in residuum). There are also areas in which the parent sediments are fairly unweathered. These are described on the site forms as bedrock or bedshale. Most of the soil deposits of any depth are colluvium along with poorly developed alluvial deposits in parts of the major drainages. Perhaps one of the most common deposits below 3,500 ft (1,067 m) in elevation is the scoria-laden gravel, which often contain

porcellanite pebbles and cobbles. At several locations it appeared these cobbles were tested for use as lithic material for tool manufacture. Such locations were given Minimal Activity Loci (MAL) status. Except for low gradient slope land and drainage bottoms, the soils can be expected to be quite thin.

Climate

The project area is located within a short grass Plains environment that is classified as semi-arid continental steppe. The steppe is characterized by cold winters, hot summer days, cool summer nights, abundant sunshine, moderate relative humidity, and low but highly variable and intensive precipitation. The heaviest rainfall period is in the spring (U.S.G.S. 1978). During the cold winters, chinook winds often blow, rapidly increasing temperatures and melting the snow cover. It is probable that the mild temperatures brought about by the chinooks allowed the gathering of large numbers of people for communal hunting. The hot summer winds deplete available surface water and rapidly dry the vegetation. The heat of the summer sun on the south facing slopeland and cliff areas results in temperatures that far exceed the ambient temperatures in the shaded north sloping areas of the survey. This is an important consideration when attempting to place south-facing rockshelter sites into a seasonal pattern of use.

The vegetation in the area relies heavily upon late May or June rains for growth. Periodically, these rains do not occur, resulting in drought conditions. At least four severe droughts have occurred in the last 100 years (U.S.G.S. 1978), the drought of the 1930s being the most recent and severe, followed closely by the current drought. Such short-term climatic changes greatly altered the carrying capacity for fauna. Similar droughts in the Holocene could have greatly altered group movements and resulted in short-term subsistence pattern changes. Presently, precipitation in the region has followed a 21-year cycle of wet and dry years (State Task Force, Open-File Report). The effects of short-term climatic fluctuations upon the archeological record are important but difficult to delineate and are beyond the scope of this report (Munson and Ferguson 2002).

The mean average temperature in the region is 45.9° F. Forty days per year reach 90° F or above, and 184 days per year have freezing temperatures (U.S.G.S. 1978). Mean annual snowfall is 34.6 inches. This represents 20 percent of the total annual precipitation. Snow cover is greatest in January; the mean is about 3 inches, and it usually stays at least 11 consecutive days (State Task Force, Open-File Report, 1978). Snow has been reported to fall as late as June 8 (2 inches) and as early as September 8 (6 inches) (U.S.G.S. 1978:11-16).

Wind

The direction of the predominant surface airflow is an important consideration when attempting to delineate seasonal use and occupation of an area by prehistoric peoples. Sites that are on south-facing slopes or near sandstone overhangs may not have been utilized during the winter if the wind caused more heat loss than what was generated by the sun. Wind data collected by Econ, Inc., in 1975-1977 40 km north of the project area show that the dominant surface air flow is from the southwest, west and northwest. Seven miles per hour is the mean average wind speed, with gusts up to 50 miles per hour occurring in the spring and fall (U.S.G.S. 1978).

Vegetation

Vegetation observed in the project area was noted and the accumulated list includes, in no particular order: ponderosa pine, Rocky Mountain juniper, common juniper, black cottonwood, box elder, silver sage, big sage, fringed sage, Nuttall saltbush, rubber rabbitbrush, green rabbitbrush, western wheatgrass, needle-and-thread, blue grama, prairie junegrass, bluestem, scarlet globemallow, Hood's phlox, cushion phlox, purple coneflower (Echinacea), prairie sandreed, threadleaf sedge, scurf pea, sunflower, western yarrow, oyster root (goats beard); green sagewort, white sagewort, skunkbush sumac (*rhus*), pussy toes, death camas, ball cactus, prickly pear cactus, yucca, desert evening primrose, sego lilly, opuntia, arrow balsam root, yellow sweetclover (introduced), hairy goldastor, wooly locoweed, fuzzy penstemin, blazing star, prairie smoke, cheatgrass brome (introduced), broom snakeweed and western yarrow. This list is to be considered informal and is by no means comprehensive. A complex riparian community lies along the Otter Creek floodplain, and contains a variety of willows and other species.

Topography and Geomorphology

The landforms present in the project area have their origin several hundred miles to the west. During the Tertiary Period, outwash from the first Rocky Mountains combined with ash from occasional volcanic eruptions was deposited in a broad sweeping piedmont plain by eastward flowing rivers. The conditions during deposition were constantly changing. Swamps filled with vegetation were buried with sand, mud and silt while new swamps were being formed nearby. The results of the constantly changing conditions are beds of irregular form and varied extent. This formation is called the Fort Union. It consists of yellowish-gray sandstone interbedded with gray to yellow shale and coal of varying thickness. The Fort Union has two divisions: the lower gray beds are the Lebo shale member and the upper yellow beds are the Tongue River member (Christman 1948).

The uplifting of the present Rocky Mountains and the development of the Big Snowy uplift during the late Tertiary changed the area from one of deposition to one of erosion. Major river tributaries such as the Yellowstone, Big Horn, and Tongue developed, cutting deeply into these Tertiary deposits and leaving isolated, relatively small mountains scattered throughout southeastern Montana. These residual ranges form the western and eastern boundary of the project area. Otter Creek and its tributaries have carved away these mountains on the east sides while the Tongue River and its tributaries have been encroaching upon them from the west. The irregular beds of sandstone and shale caused differential erosion of the landscape. Therefore, the terrain surrounding the project area is rugged with resistant cap rock covered mesa-like hills and ridges of varying heights dotting the landscape. The greater the distance from the mountains, the less rugged the terrain becomes.

The highest point within the project area is on the west edge of Section 18, T4S R35E, at 3680 ft (1122 m) above mean sea level. The lowest elevation within the project area is 3020 ft (920 m) above mean sea level. This lower elevation is on Otter Creek. Numerous tributaries of Otter Creek, mostly unnamed ephemeral arroyos, have heavily dissected the landscape. These tributaries flow generally from east-to west and from west to east, converging on the south-to north trending Otter Creek. The result is several large ridge complexes and a heavily dissected upland environment.

The topographical relief no doubt played an important role in prehistoric land use of the area. The location of sites reflects this because the majority of the sites are located in predictable areas on the tops of the most prominent landforms, along terraces of the larger tributaries and at prominent outcrops of sandstone. The environments of specific parcels are briefly

discussed below. Figures 2-1 through 2-14 are photographs of each section in the project area showing the terrain.

Cultivated Lands

Cultivation is noted because it implies 1) the destruction of any shallow archaeological deposits that may have existed and 2) in some cases resulted in land that could not be accessed or that has extremely low surface visibility. Once cultivated land (associated with the homestead era, ca. 1920s) is found in the S1/2 Section 20, on terraces and benches adjacent to Newell Creek. These lands were surveyed, but had no possibility of containing intact surface stone features. Currently cultivated lands that held standing crops of alfalfa and were not surveyed at all include about 40 acres (each) within Sections 22 and 16 on the floodplain of Otter Creek, and about 20-30 acres (each) in Sections 2 and 12 on the floodplain of Threemile creek. These areas are probably of low potential for the preservation of archaeological remains and are probably outside of any realistic footprint for coal mine development because of their riparian proximity, but they may require survey in the future.

The floodplain of Otter Creek has been completely scoured more than once in the past 50 years and has little possibility of discoverable prehistoric materials. Local rancher Ted Fletcher reported seeing his entire creek bottom (several hundred yards wide) entirely flooded on several occasions. Threemile Creek floods just as severely, as indicated by flotsam suspended in trees and bushes several feet above the ground. The floodplains of both drainages are considered to have low archaeological potential. Figures 2-15 to 2-19 show the locations of cultivated lands, both past and present, found in the project area.

Terrace Landforms

Figures 2-15 to 2-19 also show the locations of terrace landforms for which a gradiometer survey is strongly recommended prior to any major undertaking, despite the fact that cultural materials may not have been observed on the surface at these locations. These landforms have high probability of prehistoric use as campsites based primarily upon their proximity to potential water sources, and have a depositional setting that suggests that any cultural deposits may be buried. Also, these landforms are typically covered with dense grass and sagebrush so surface visibility is poor. Many of the sites that we consider to have the highest potential for yielding significant archaeological information were found in this type of setting, and were discoverable only by exposures of cultural material along the eroded margins of the landform. Limited gradiometer transects would indicate whether buried thermal features are present and would thus identify buried cultural components on these landforms.

Fort Union Formation

The Fort Union Formation dates to the Paleocene Epoch of the Tertiary Period and is divided into the Tullock, Lebo, and Tongue River members (Balster 1971; Ross et al. 1955). The Tullock member is at the base of the Fort Union Formation and includes light yellow to light brown sandstone, gray shale, and several distinct coal beds (Vuke et al. 2001). It is overlain by the Lebo member, which contains gray shale and mudstone, gray to yellow sandstone, dark-colored ironstone, and a few thin coal beds. The Tongue River member is the uppermost unit in the formation and includes yellow or tan sandstone interbedded with yellowish brown, or tan siltstone; mudstone and claystone; and several prominent coal beds. Many of the coal beds in the Fort Union Formation have been altered into clinker by ignition (Vuke et al. 2001), which metamorphosed adjacent rock layers into porcellanite, which was used by Native Americans in the manufacture of stone tools (Hanna 2004).

Section 36 (T3S R45E)

Section 36, T3S R45E, contains generally rolling grassland with a few stands of ponderosa and juniper. There was no surface water on this section during the survey, although a large, unnamed ephemeral drainage may have had seeps at one time, based upon deciduous trees and shrubs growing in the drainage channel. Sites were concentrated along this drainage.



Figure 2-1. Overview of Section 36 (T3S R45E) looking northeast.

Section 2 (T4S R45E)

Section 2 contains a short segment of the Threemile Creek drainage. This section contains prominent ridges and ephemeral drainages along with generally rolling grassland with a few stands of ponderosa and juniper. There was no surface water on this section during the survey, although Threemile Creek must have had water at least seasonally, based upon deciduous trees and shrubs growing in the drainage channel. Sites were concentrated along this drainage, and include deeply buried components. Vegetation nearly obscured some of the high potential terraces along the drainage. A gradiometer survey of selected terraces of Threemile Creek is suggested in the event of a mine development project in the area.



Figure 2-2. Overview of Section 2 (T4S R45E) looking north.

Section 6 (T4S R45E)

Section 6 includes rolling grasslands in the southeast, and prominent ridges and heavily dissected uplands with deep, severely eroded arroyos in the rest of the section. No surface water was observed in the parcel. The ponderosa pine forest had recently burned in the west edge of this section. The burned occurred a couple years ago and grass has recovered well so surface visibility in the burned area was similar to outside the burn. Sites were clustered on a high, nearly level landform in the southeast quarter.



Figure 2-3. Overview of Section 6 (T4S R45E) looking south.

Section 8 (T4S R45E)

Section 8 was perhaps the most severely eroded parcel in the study area. No surface water was observed in the parcel. The section lacked the prominent landforms found in most of the other parcels. Much of this section has exposed weathering shale and scoria, sparse grass and a veneer of residual and Tertiary gravel. Sites tended to be surficial, sparse lithic reduction stations.



Figure 2-4. Overview of Section 8 (T4S R45E) looking northwest.

Section 10 (T4S R45E)

There are two parcels within Section 10. The southern parcel was relatively flat (photo) and supports a large prairie dog town along an unnamed drainage. The northern parcel encompasses a segment of the Threemile Creek drainage. No surface water was observed in either parcel.



Figure 2-5. Overview of Section 10 (T4S R45E) looking south.

Section 12 (T4S R45E)

The northern edge of Section 12 encompasses some of the Threemile Creek drainage, and a major tributary of Threemile Creek that held a reservoir (dry during this project) that generally holds water as indicated by cottonwoods, box elders and willows along the drainage channel. Selected terrace lobes around the confluence of these drainages, in the NE/4 of the section should be surveyed with gradiometer, as they have high site probability, good depositional settings, and low surface visibility due to vegetation cover. A few acres along the Threemile Creek floodplain were cultivated and in standing alfalfa. These fields were not surveyed at the request of DNRC and the landowner.



Figure 2-6. Overview of Section 12 (T4S R45E) looking southeast.

Section 14 (T4S R45E)

Section 14 is an irregular shaped section containing scoria-capped ridges and heavily dissected uplands. No surface water was evident. Sites in this section tended to be of the surficial lithic workshop variety.



Figure 2-7. Overview of Section 14 (T4S R45E) looking northeast.

Section 16 (T4S R45E)

Section 16 contains about 40 acres of cultivated alfalfa crop in the Otter Creek floodplain, which was not surveyed at the request of DNRC and the landowner. The remainder of the section is heavily eroded grassland with exposed weathering shale and a veneer of Tertiary and residual gravel.



Figure 2-8. Overview of Section 16 (T4S R45E) looking east showing the Otter Creek bottom and cultivated fields (Otter Creek road in mid-ground).

Section 18 (T4S R45E)

Section 18 includes rolling grasslands and arroyos at the margin of the higher hills to the west of the study area. The ponderosa pine forest that covers much of this section, had recently burned. Surface water was exposed in seeps in the bottom of two drainages in this section. Sandstone outcrops occur in the southwest 1/4 of the section along the southern drainage. One of these outcrops exhibits prehistoric petroglyphs (24PR2317). It is strongly recommended that the terrace surrounding that site, and adjacent to a potential surface water source, be surveyed with a gradiometer prior to any disturbance.



Figure 2-9. Overview of Section 18 (T4S R45E) looking west.

Section 20 (T4S R45E)

Once cultivated land (associated with the homestead era, ca. 1920s) is found in the S1/2 Section 20, on terraces and benches adjacent to Newell Creek. These lands were surveyed, but had no possibility of containing intact surface stone features. The section is primarily rolling grassland with a few sandstone-capped ridges. A fire break line had disturbed site 24PR2320 in this section.



Figure 2-10. Overview of Section 20 (T4S R45E) looking northeast.

Section 22 (T4S R45E)

Section 22 contains two parcels, one in the west half and one in the northeast 1/4. Together, they include about 40 acres of the Otter Creek floodplain, most of which is under cultivation of alfalfa. The field of standing alfalfa was not surveyed at the request of DNRC and the landowner. Sites are concentrated on ridge tops and terraces in the western parcel near the confluence of Newell Creek and Otter Creek.



Figure 2-11. Overview of Section 22 (T4S R45E) looking west from northeast corner.

Section 24 (T4S R45E)

Section 24 contains the most dramatic topography found in the project area, with massive sandstone outcrops forming steep-walled canyons, and spires. Also found in Section 24 is Fortune Spring, a drainage with several small seeps and one of only three natural surface water sources that were found (apart from Otter Creek). Not surprisingly, this section had the highest site density of this project, most of which are clustered near the Fortune Spring drainage, and many of which appear to be substantial occupation sites. Gradiometer survey of terraces along this drainage is recommended.



Figure 2-12. Overview of Section 24 (T4S R45E) looking west.

Section 26 (T4S R45E)

The sandstone beds that are seen as prominent outcroppings in nearby Section 24 are more eroded in Section 26. Still, the numerous spires and outcrops in this section offer many potential rock shelters and these landforms probably account for the presence of the largest, and perhaps most complex site of the entire project, centered around the ridge shown below. The section abuts the Otter Creek drainage, so permanent water was also available here. Several small, lobe-shaped terraces above Otter Creek are recommended for gradiometer survey.



Figure 2-13. Overview of Section 26 (T4S R45E) looking north.

Section 36 (T4S R45E)

The environment in Section 36 (T4S R45E) is rolling sage and grassland with limited areas of erosive shale badlands and flat-topped, scoria-capped ridges with sparse ponderosa pine forest. Porcellanite gravel and cobbles are abundant across the northeast half of this section. The cultural result is a landscape covered with sprawling, low-density debitage scatters. This is a ubiquitous site type in the region that has a very low academic research potential due to almost universal lack of soil development, absence of formal tools, features, poor contextual integrity and uncertain temporal provenience. There was no surface water in this parcel.



Figure 2-14. Overview of Section 36 (T4S R45E) looking southeast.

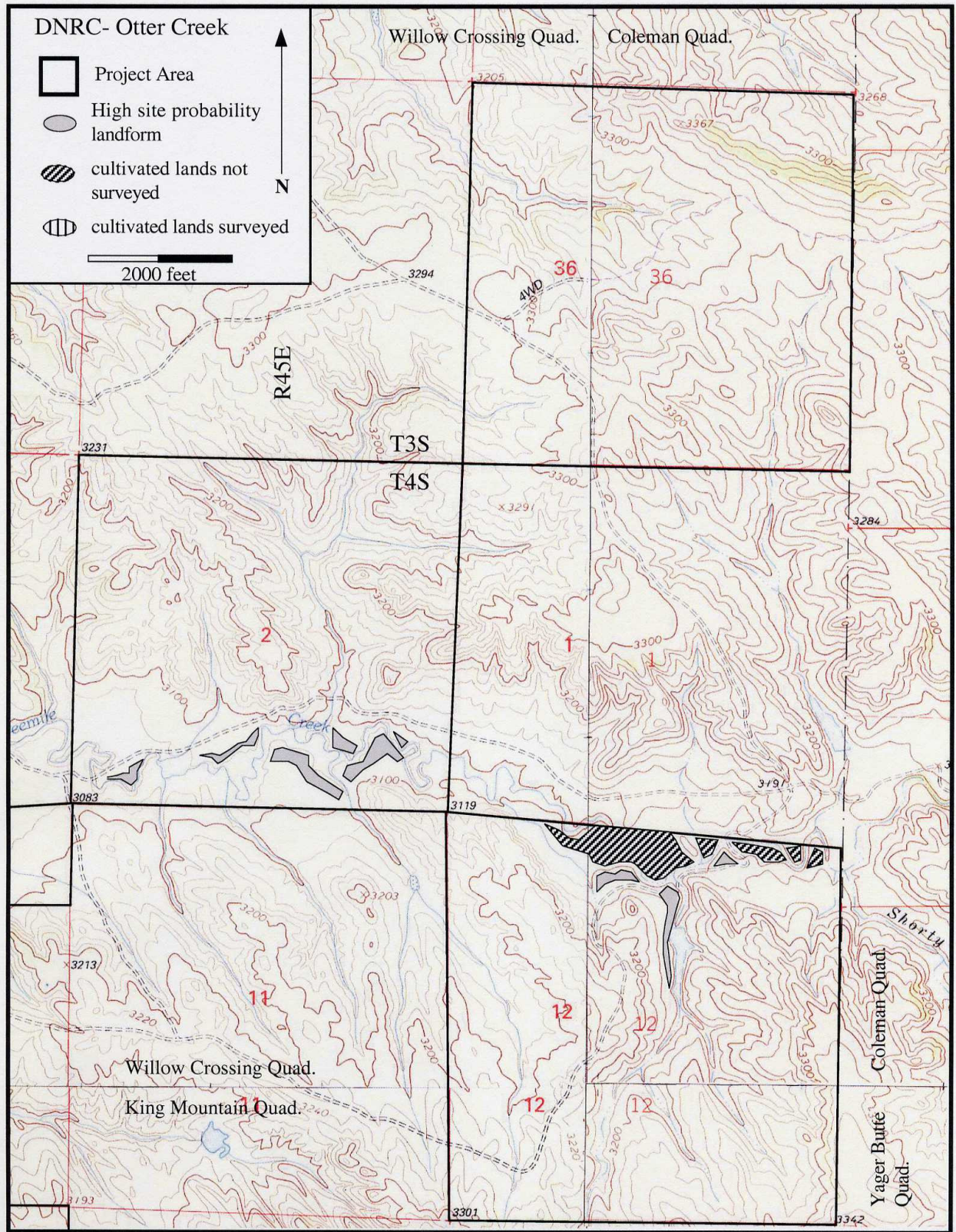


Figure 2-15. Map of project area showing the location of cultivated lands and high site probability terrace landforms.

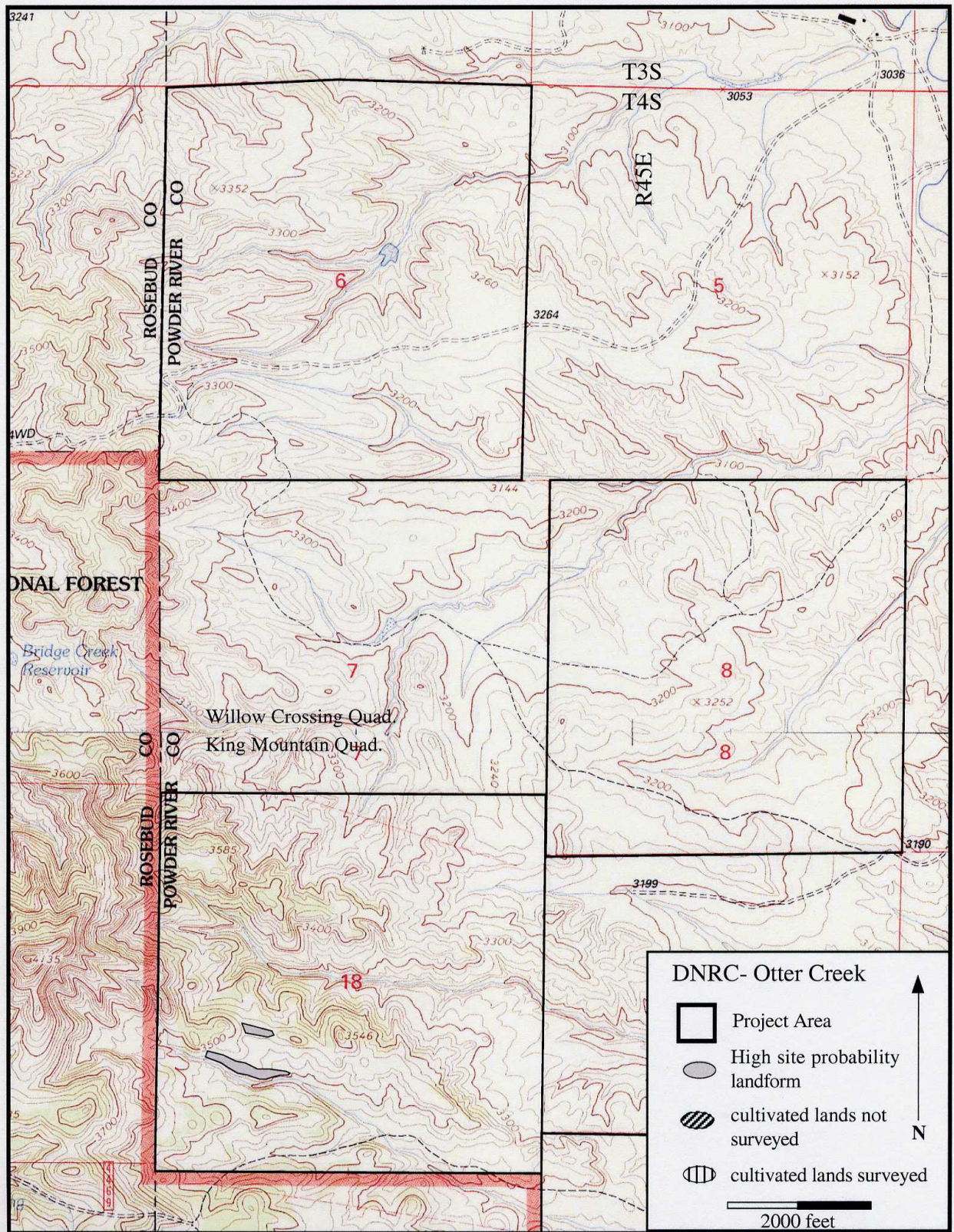


Figure 2-16. Map of project area showing the location of cultivated lands and high site probability terrace landforms.

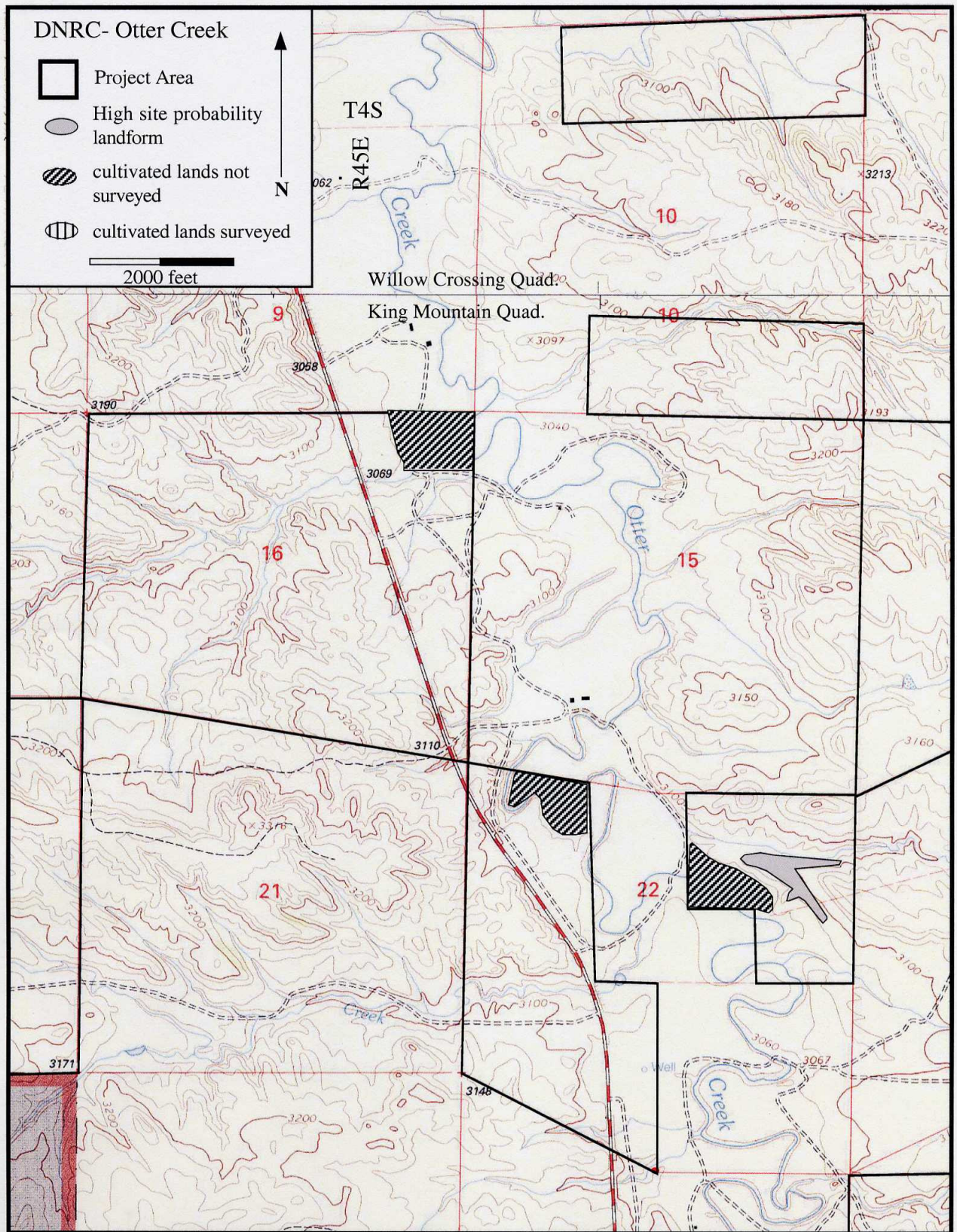


Figure 2-17. Map of project area showing the location of cultivated lands and high site probability terrace landforms.

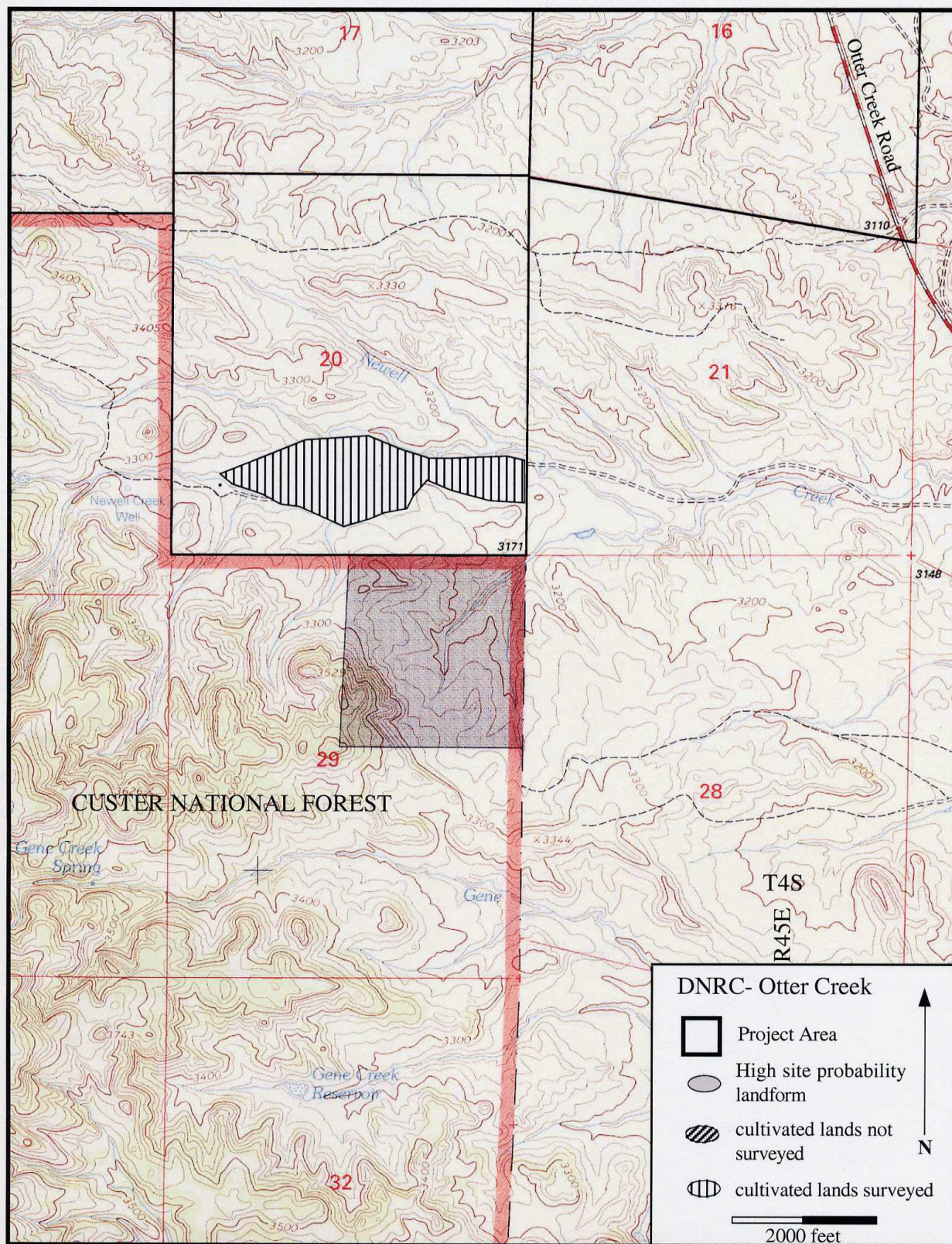


Figure 2-18. Map of project area showing the location of cultivated lands and high site probability terrace landforms.

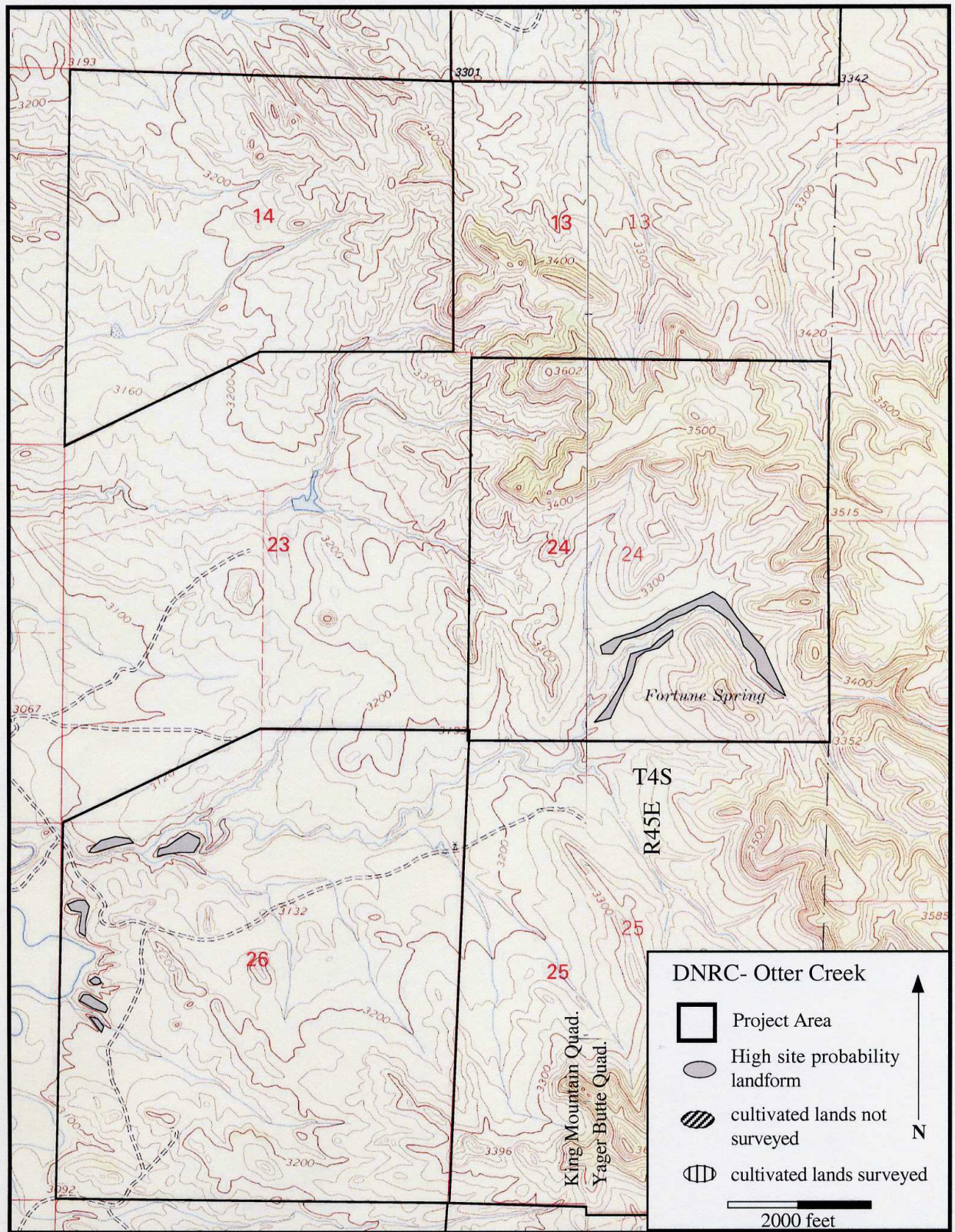


Figure 2-19. Map of project area showing the location of cultivated lands and high site probability terrace landforms.

CHAPTER 3. LITERATURE REVIEW

The following sources were checked for historic background and to locate previously recorded sites and inventories, including: Montana SHPO Cultural Resource Information System (CRIS) and Cultural Resource Annotated Bibliography System (CRABS) file searches, site forms from the University of Montana cultural records office (CRO), project maps and other data on sites recently (June, 2004) recorded by DNRC archaeologist Patrick Rennie, early series General Land Office (GLO) plats, Master Title Plats, and Homestead Land Entry files available online at the BLM website. The plats and land entry files were used to research the historic sites that were found in the project area and to determine if any cultural features had been noted by the GLO surveyors.

A historic and prehistoric context for the study area was not required under this contract. Contextual statements will be prepared in conjunction with site testing and NRHP evaluations in the event of proposed development. A general background for the study area was obtained by reviewing several local and regional publications including Bryant (1980); Beckes (1974); Beckes and Keyser (1983); Mclean (1975, 1976) and Wettstaed (1989). Several site forms that were recorded by Carl Davis, et al., are discussed in a 1976 report by Davis (Doug Melton, personal communication) but a copy of this parent document is not on file at the SHPO, and it could not be obtained for this project.

The CRIS and CRABS searches were conducted on March 23, 2004 (Murdo 2004). The CRABS search indicated that a total of seven previous inventories had been conducted within the project sections between 1973 and 2000, with all but two occurring in the 1970s. The CRIS search indicated that 63 sites were recorded during these inventories. However, after the site forms were obtained it was discovered that one site, 24PR1518, was listed in error as the result of an incorrect legal description on the site form. The legal description places the site in Section 36, T3S R45E when the site narrative makes it clear that the site is actually located near the West Branch of Dailey Creek in Section 36, T2S R45E. The 1989 inventory listed in the CRABS report was associated with this site recording alone, and evidently did not intersect the current project area. Therefore, six previous inventories recorded 62 sites prior to the field season of 2004. All but the 2000 project occurred in the 1970s.

Of the 62 sites listed in the CRIS files (not counting the site listed in error), 55 have an undetermined NRHP status, six (6) have been recommended as eligible for the NRHP (all but one by the Keeper of the NRHP), and only one (1) has been determined ineligible. Sites determined previously eligible included: 24PR599, 24PR593, 24PR596, 24PR597, 24PR591 and 24PR1965. Of these, two contain stone rings, one contains cairns, two are lithic scatters, and one consists of a long series of road culverts constructed by the Civilian Conservation Corps (Bergstrom 2001). The latter is described in the CRIS report as an irrigation system. The only site that has been determined ineligible is 24PR48, a lithic scatter. The remainder of the sites have an undetermined eligibility status.

Not all of the previously recorded sites were relocated during the current inventory. One of these was a site determined eligible by the Keeper of the NRHP. See Chapter 5 (Identified

Cultural Resources) for a discussion of additional work and updates regarding the previously recorded sites.

In addition to the sites in the CRIS files, four sites were recorded by DNRC archaeologist Patrick Rennie in June, 2004, approximately two weeks prior to the beginning of fieldwork for the current project (see Appendix A). These sites are 24PR2253, 24PR2254, 24PR2255, and 24PR676/677. The last mentioned combines two previously recorded sites listed in the CRIS files. If the three newly recorded sites are added in, then the tally of previously recorded sites becomes 65. Basic information regarding these sites was furnished by Mr. Rennie prior to the beginning of fieldwork.

The early GLO surveys occurred in the years 1887, 1916-1917 and 1919. The plat for T3S R45E (surveyed 1887, accepted 1888) depicts scattered ranch complexes and a network of roads, but nothing within project Section 36, T3S R45E. Township 4 South Range 45 East was surveyed in three episodes- 1890, 1908 and 1916. Plats of the township were accepted in 1892, 1909 and 1917. The 1892 plat depicts the Otter Creek Road and scattered ranch complexes and features. The road is shown coursing through project Sections 15, 16 and 22, T4S R45E, which roughly corresponds with the current course of the road. None of the ranches lies within a project section. A corral is shown near the project area in Section 22, T4S R45E, and a building labeled "Davis" lies in Section 9 (between project Sections 8 and 10), T4S R45E. In addition, a system of barbed wire fences is shown within or near the project area in Section 10, T4S R45E. The 1909 plat depicts rugged terrain in the western portion of the township and does not show any cultural features. The 1917 plat only depicts lands in Sections 13, 23, 24, and 25, T4S R45E , which are located in rugged terrain. No cultural features are shown.

Table 3-1. Summary of the CRABS and CRIS searches.

Site No.	Recorder/Year	T	R	I/4 Section	Site Type	NRHP Status	Recording Status/Comments
24PR1518	Wettstaed 1989	3S*	45E	SW 36	lithic scatter	undetermined	*site form error, actually in T2S R45E Sec. 36 (not included in tallies below)
24PR575	Gehr, et al. 1979	4S	45E	NE 2	lithic scatter	undetermined	re-recorded
24PR578	Gehr, et al. 1979	4S	45E	NE 2	lithic scatter	undetermined	not found
24PR572	Gehr, et al. 1979	4S	45E	NW 2	lithic scatter	undetermined	not found
24PR573	Gehr, et al. 1979	4S	45E	NW 2	lithic scatter, cairns	undetermined	updated
24PR569	Gehr, et al. 1979	4S	45E	SE 2	lithic scatter, cairns	undetermined	re-recorded
24PR577	Gehr, et al. 1979	4S	45E	SE 2	lithic scatter	undetermined	re-recorded; combined with PR576
24PR576	Gehr, et al. 1979	4S	45E	SE 2	lithic scatter	undetermined	re-recorded; combined with PR577
24PR570	Gehr, et al. 1979	4S	45E	SE 2	lithic scatter, cairns	undetermined	re-recorded; combined with PR571
24PR571	Gehr, et al. 1979	4S	45E	SE 2	lithic scatter	undetermined	re-recorded; combined with PR570
24PR565	Gehr, et al. 1979	4S	45E	NW 6	lithic scatter	undetermined	updated; datum established, photographed
24PR706	Gehr, et al. 1979	4S	45E	NW 6	faunal remains	undetermined	not found; no cult. material found by original recorder
24PR566	Gehr, et al. 1979	4S	45E	NW 6	stone ring, lithic scatter	undetermined	updated; datum established, photographed
24PR52	Davis, et al. 1975	4S	45E	SE 6	lithic scatter	undetermined	re-recorded
24PR563	Gehr, et al. 1979	4S	45E	SE 6	stone ring, lithic scatter	undetermined	updated; datum established, photographed
24PR564	Gehr, et al. 1979	4S	45E	SW 6	stone ring, lithic scatter	undetermined	updated; datum established, photographed
24PR29 also Gehr, et al. 1975	Davis, et al. 1975	4S	45E	NE 8	stone ring, lithic scatter	undetermined	re-recorded by DNRC 2004; comb w/ PR676 and PR677
24PR677	Rollefson 1980	4S	45E	NE 8	lithic scatter	undetermined	re-recorded by DNRC 2004; comb w/ PR29 and PR676

Table 3-1 (continued).

Site No.	Recorder/Year	T	R	1/4 Section	Site Type	NRHP Status	Recording Status/Comments
24PR676	Rollefson 1980	4S	45E	NE 8	lithic scatter, cairns	undetermined	re-recorded by DNRC 2004; comb w/ PR29 and PR677
24PR599	Gehr, et al. 1979	4S	45E	SE 8	stone ring, lithic scatter	eligible by keeper	updated; datum established, photographed
24PR600	Gehr, et al. 1979	4S	45E	SE 8	lithic scatter, cairns	undetermined	re-recorded
24PR679	Rollefson 1980	4S	45E	SE 8	lithic scatter	undetermined	updated; datum established, photographed
24PR681	Gehr, et al. 1979	4S	45E	SE 8	lithic scatter	undetermined	not found
24PR682	Gehr, et al. 1979	4S	45E	SE 8	cairns	undetermined	updated; datum established, photographed
24PR28	Davis, et al. 1975	4S	45E	SW 8	lithic scatter	undetermined	re-recorded
24PR680	Gehr, et al. 1979	4S	45E	SW 8	lithic scatter	undetermined	updated; orig. datum found, tagged, photographed
24PR705	Gehr, et al. 1979	4S	45E	SW 8	lithic scatter, other	undetermined	re-recorded
24PR54	Davis, et al. 1975	4S	45E	SE 12	lithic scatter	undetermined	re-recorded
24PR55	Davis, et al. 1975	4S	45E	NE 14	lithic scatter	undetermined	re-recorded
24PR592	Rollefson 1980	4S	45E	NE 14	lithic scatter	undetermined	not found; MAL 49 (porc. core) found in vicinity
24PR56	Davis, et al. 1975	4S	45E	NE 14	lithic scatter	undetermined	re-recorded
24PR57	Davis, et al. 1975	4S	45E	NE 14	lithic scatter	undetermined	re-recorded
24PR704	Rollefson 1980	4S	45E	SW 14	lithic scatter	undetermined	little found; recorded as MAL 45
24PR49	Davis, et al. 1975	4S	45E	NE 20	lithic scatter	undetermined	not found- vague loc. info; site 20W2 recorded in vicinity
24PR598	Rollefson 1980	4S	45E	NW 20	lithic scatter	undetermined	not found; location photographed
24PR50	Davis, et al. 1975	4S	45E	SE 20	stone ring	undetermined	not found

Table 3-1 (continued).

Site No.	Recorder/Year	T	R	1/4 Section	Site Type	NRHP Status	Recording Status/Comments
24PR47	Davis, et al. 1975	4S 45E		SW 20	lithic scatter	undetermined	not found
24PR31	Davis, et al. 1975	4S 45E		NE 22	lithic scatter, cairns	undetermined	updated
24PR594	Rollefson 1980	4S 45E		NE 22	lithic scatter	undetermined	not found
24PR593	Rollefson 1980	4S 45E		NE 22	lithic scatter	eligible by keeper	re-recorded
24PR595	Rollefson 1980	4S 45E		SW 22	historic homestead	undetermined	updated; Feature 5 GPS located, photographed
24PR596	Rollefson 1980	4S 45E		SW 22	lithic scatter, cairns	eligible by keeper	MAL M73 found in vicin.; cairn not found
24PR597	Rollefson 1980	4S 45E		SW 22	stone ring, lithic scatter	eligible by keeper	re-recorded
24PR583	Rollefson 1980	4S 45E		NE 24	lithic scatter	undetermined	updated
24PR585	Rollefson 1980	4S 45E		NE 24	lithic scatter	undetermined	not found; site 24W1 found nearby
24PR590	Rollefson 1980	4S 45E		NE 24	lithic scatter	undetermined	updated
24PR32	Davis, et al. 1975	4S 45E		NW 24	lithic scatter	undetermined	not found
24PR586	Rollefson 1980	4S 45E		NW 24	lithic scatter	undetermined	not found; site 24W1 found nearby
24PR1061	Beckes 1973	4S 45E 4S 46E		SE 24 NW 16	lithic scatter	undetermined	re-recorded
24PR591	Rollefson 1980	4S 45E		SE 24	lithic scatter	eligible by keeper	re-recorded, same site as PR1061
24PR1199	Knight, et al. 1974	4S 45E		SE 24	lithic scatter	undetermined	re-recorded; combined with PR591, PR1063, 24D33
24PR1063	Beckes 1973	4S 45E		SE 24	lithic scatter	undetermined	re-recorded; combined with PR591, PR1199, 24D33
24PR1062	Beckes 1973	4S 45E		SE 24	lithic scatter	undetermined	re-recorded
24PR40	Davis, et al. 1975	4S 45E		NW 26	lithic scatter	undetermined	re-recorded; combined with PR42, PR44 and PR46

Table 3-1 (continued).

Site No.	Recorder/Year	T	R	1/4 Section	Site Type	NRHP Status	Recording Status/Comments
24PR41	Davis, et al. 1975	4S	45E	NW 26	lithic scatter	undetermined	re-recorded
24PR42	Davis, et al. 1975	4S	45E	SE 26	lithic scatter, rockshelter	undetermined	re-recorded; combined with PR40, PR44, PR46
24PR43	Davis, et al. 1975	4S	45E	SW 26	lithic scatter	undetermined	re-recorded; combined with PR45 and PR48
24PR44	Davis, et al. 1975	4S	45E	SW 26	lithic scatter	undetermined	re-recorded; combined with PR40, PR42, PR46
24PR48	Davis, et al. 1975	4S	45E	SW 26	lithic scatter	ineligible	re-recorded; combined with PR43 and PR45
24PR45	Davis, et al. 1975	4S	45E	SW 26	lithic scatter	undetermined	re-recorded; combined with PR43 and PR48
24PR46	Davis, et al. 1975	4S	45E	SW 26	lithic scatter	undetermined	re-recorded; combined with PR40, PR42, and PR44
24PR1064	Beckes 1973	4S	45E	SE 36	stone rings, lithic scatter	undetermined	re-recorded
24PR1965	Bergstrom 2000	4S	45E	SE 36	historic CCC culverts	consensus eligible	no additional work conducted
Total: 62 Previously recorded sites (actually in proj. area)							
Subtotals-							
				NRHP Eligible=6	Sites found and totally re-recorded =33		
				Not Eligible=1	Sites found and updated (refined legals, UTM's and photos) =13		
				Undetermined=55	Sites found that needed no additional recordation =1		
				Elig. site components- stone rings- 2, cairns- 1	Sites determined to be outside project area (incorrect legals) =1		
				lithic scatter- 2,	Sites not found* = 15		
				historic CCC culverts- 1	*Minimal Activity Loci (<5 flakes) found at the inferred location of 24PR578, 24PR704 and 24PR596		

CHAPTER 4. METHODS

File Search

A file search was conducted by Montana DNRC through the Montana SHPO on 3-23-04. It lists 62 previously recorded sites in the vicinity of the 2004 survey area (see Chapter 3). A review of these site forms, as well as previous Otter Creek region inventory reports by Hagen (1970), Deaver 1981 and Beckes and Keyser (1983) was made to familiarize the types of sites that have been discovered in the area. The site forms generated in the 1970s and 1980s tend to be lacking in locational information. The legal descriptions are typically only 1/4 1/4 sections, site sketch maps are inaccurate and not to scale, there are no USGS maps attached, no site photographs and of course no UTM coordinates. The old site datum markers, if they were made, are now impossible to find in the field. The most difficult and time-consuming part of this project was trying to reconcile the previously recorded sites with what we observed in field. Some of the sites could not be found at all (see Chapter 3). Other sites, once found, proved to be essentially as they were originally described. These site forms were “updated” with refined locational information and photographs, but entirely new site forms were not prepared (see Chapter 5). A third category was sites that were found, but which required a completely new description. This includes several cases where more than one previously recorded site was combined into one “new” site. New site forms were prepared for this category of site.

Field Inventory

An intensive pedestrian inventory of the approximately 7,720-acre study area was conducted from June 9th to June 29th, 2004. Field personnel were David Ferguson, Garren Meyer, Britt Johnson, and Walker Vaught. The inventory was carried out by walking either zigzag or linear transects, depending on the terrain, in order to achieve maximum coverage of the area. Government Land Office (GLO) or BLM cadastral markers were located for each survey parcel. Many parcels were delineated on one or more sides by fenced section lines or half-section lines. Generally, the land was easy to traverse and topography posed no impediment to walking. Section 24 was a notable exception, where vertical sandstone walls required deviation from normal survey routes.

All personnel carried USGS topographic maps, Global Positioning System (GPS) units, hand-held radios, and compasses, to coordinate the survey. Pedestrian transects were typically designed to cover specific landforms (e.g., a ridge top or a drainage bottom). This is much more effective in this type of terrain than trying to maintain rigid, 30-m wide, straight line transects. Linear transects in this country would result in much time wasted on low productivity slopes, and a lack of focused inspection in areas of high site probability. Careful inspection was made of all high probability landforms such as terraces, rock outcrops, ridge tops and cut banks. All drainages were walked, and the eroded banks were carefully checked. Eroded areas were carefully checked for cultural or paleontological materials that may have been exposed. Other sources of subsurface exposure that were emphasized include ruts in two-track roads and trails, animal burrows and ant piles.

Site Recording Procedures

During the pedestrian transects, cultural material was identified, flagged and plotted on the appropriate USGS map. Site recording procedures included walking over the site to locate exposed materials, establishing a datum, taking site photographs, plotting locations for the site sketch map, sketching or photographing artifacts and conducting on-site artifact analyses. Universal Transverse Mercator (UTM) coordinates were made with recreational grade GPS units. These have Wide-Angle System (WAAS) capability and generally plot within 10-m accuracy. Typically, only the datum and significant outlying features were thus plotted, but site perimeter points and remote temporally diagnostic artifacts were sometimes entered as well. GPS readings were compared with map template locations to corroborate the map plots.

Site sketch maps were made with a laser range finder and siting compass. The locations of all formal tools, features, discrete artifact concentrations and prominent natural landforms were plotted on the sketch maps. Azimuths (in 360-degree, east of true north, format) were calculated with the aid of a high-quality sighting compass. Distances were calculated with laser range finders (for distances over 18 m), pacing (for distances under 18 m) or tape measures (for distances under 2 m). “All Topo” software was used with the GPS data to produce the topographic background for the site sketch maps.

The site datum typically consisted of a pin flag with an attached metal tag describing the organization, field number, date and recorder. The datum pin flag was driven into the ground as far as possible, bent at a 90-degrees angle and covered with a substantial pile of rocks. The reason for this is to create a semi-permanent datum. If uncovered, a pin flag will soon become displaced. The ability to relocate a site datum is critical when further work at the site is required.

Photographs of the site and any photogenic features were taken and temporally diagnostic artifacts were either sketched or photographed in the field. The photographs and sketches are included with the site forms.

Site Testing

No subsurface testing was conducted during this project. Most of the sites located during this project will require some level of subsurface testing to complete their NRHP evaluation and / or to formulate appropriate mitigation plans in the event that the sites are to be disturbed by a future undertaking. The testing will have to be conducted as a separate project by the proponent of any future undertaking.

Site Types and Definitions

Five broad categories of cultural resources were used for this project: 1) prehistoric sites; 2) historic sites; 3) prehistoric-Minimal Activity Loci (MALs); 4) historic-modern MALs; 5) paleontological locales. A prehistoric site is a location with features or artifacts dating earlier than Euro-American contact and relating to early Native American activities. A

historic site is a location with post-contact artifacts or features. Sites are further classified based on the types of artifacts and features (see below).

A site is defined as a cluster of six or more artifacts greater than 50 years of age, or one or more clearly definable features or structures greater than 50 years of age. Sites were recorded on Montana Cultural Resources Information System Forms obtained from Montana DNRC. For defining site areas, the "rule of one hundred" was used in combination with topography, that is, spacing of more than 100 meters between cultural remains was considered to create separate sites. All of site areas in this project are primarily determined by the distribution of artifacts and features observed on the surface and are subject to change pending subsurface testing information. The presence of distinct landforms or substantial topographic features such as deep drainages or terrace edges were used secondarily to define site areas.

For convenience, sites are generally sub-classified on the types of cultural materials they contain and on an inferred function, bearing in mind that the terms used here do not necessarily imply either a particular function or its absence. For example, the term "lithic scatter" need not exclude the possibility of food processing, habitation or other activities. Similarly, the term "campsite" does not necessarily imply a specific set of activities.

Prehistoric cultural remains discovered during this project were classified into these types: *campsites* (sites including hearths or indirect evidence of hearths such as fire-altered rock); *rock art sites* (petroglyphs of apparent prehistoric origin); *surface lithic sources* (sites encompassing porcellanite source areas, typically as talus, gravel or weathered outcrops); *lithic reduction stations* (sites containing large volumes of lithic debris, including spalls, core fragments and flakes, but lacking evidence of camping or other activity); *lithic scatters* (components containing scattered pieces of lithic debitage- but not having the voluminous debris associated with a lithic reduction station, and not having evidence of camping or other activity); *stone rings* (or tipi rings; more or less circular stone arrangements); *rock alignments* (linear arrangements of stones); and *cairns* (probable prehistoric rock piles). Site types also are used in combination.

A *prehistoric MAL* may be an isolated artifact or a cluster of up to five artifacts with no association with a feature. Typically included in the prehistoric MAL category are the ubiquitous small lithic clusters found in this region resulting from the rendering of a single core or cobble, resulting in a few flakes with no formal tools. These locations represent a very minimal amount of cultural activity and there is no possibility of gaining any further information from the location.

Historic component types found in the project area include: *roads*, *irrigation features* and *homesteads*. A historic road is apparent from the old series GLO maps, roadbed construction and associated structures such as bridges. Informal "two-track" routes without a history of maintenance or design are not considered historic roads. A historic homestead is a site associated with a historic settlement in the context of the various congressional acts permitting the patenting of public domain. These are typically manifested as simple log or frame structures, building depressions, dugouts or leveled

areas and scatters of historic debris. A previously recorded historic drainage system associated with a historic road lies within the project area. Ubiquitous earthen stock dams were not recorded.

A *historic MAL* lacks a specific historical context and includes such things as isolated machine parts or a few cans. Historic *MAL* are presumed to represent a very minimal episode of activity such as a short-term camp.

MALs were recorded on the Montana Cultural Resources Inventory Short Form. They are not assigned Smithsonian site numbers. Information included on the form includes: county, USGS topographic map name, recorder, date, cadastral location, Universal Transverse Mercator (UTM) location, environmental setting, artifact description and sketch or photograph of artifact, if applicable. MALs are, by classification, cultural remains that are not recommended as significant in terms of the NRHP. Categorically, no further work is recommended for them. The recording of MALs provides locational information that, when used collectively with site information, might provide a further understanding of historic and prehistoric land-use patterns, lithic material use and the temporal range of regional settlement (based on recovery of isolated diagnostic projectile points).

Native American Heritage Sites

Native American heritage sites, including Traditional Cultural Properties (TCPs), can be either prehistoric or historic in age with a known association to a particular tribe. Some may be currently in use as offering sites, fasting or vision quest sites. Other sites of traditional cultural interest and importance may include rock art sites, cairns, tipi rings and various rock features, fortifications or battle sites and burials that are considered as sacred or part of the oral history and heritage. Some such properties have no man-made features but have continual use by Native Americans. No evidence of Native American heritage sites was observed during this investigation.

Rock Art Recording

Petroglyphs and historic graffiti located in the course of this investigation were recorded in the following manner. A brief narrative description of the remains was made. Sketches of the motifs were made and rough measurements of the motifs and their relationship to the ground and other elements were noted. Photographs were taken, with scale where possible.

Sites having prehistoric rock art may be of interest to the Northern Cheyenne, Crow and other tribes and should ultimately be addressed during tribal consultation if they are to be impacted by a future undertaking.

National Register of Historic Places Evaluations

Formal National Register of Historic Places (NRHP) evaluations were not made during this project. Informal notes on research significance were made on a few selected site

forms, for those sites having an obvious lack of research potential (or those that have obviously great potential). Sites were generally categorized as having “high,” “moderate” or “low” testing complexity. These notations do not necessarily correlate to significance, rather they give a relative description of the effort that will be required to 1) formally test the site for and NRHP evaluation, and/or 2) to adequately define the spatial limits for purposes of designing a data recovery plan.

Fieldwork Conditions and Problems

Fieldwork conditions were generally favorable. This was a drought-stricken year with sparse grass cover, resulting in generally good surface visibility. The terrain was not sufficiently rugged to cause any problems for traversing on foot, except in Section 24, T4S R45E, as noted above.

Artifact Definitions and Classifications

For the purposes of continuity, the following definitions and classifications of artifacts (Table 4-1) were used. These terms may appear in site descriptions or in the associated site forms.

Table 4-1. Artifact Definitions and Classifications.

Artifact	Description
Decortication Flake	Unmodified flake with cortex on the dorsal surface. Striking platforms are generally unprepared. Associated with the initial preparation for reduction of a cobble of raw material.
Primary Flake	Unmodified flake having one or two dorsal flake scars. Striking platforms are generally unprepared. Associated with the initial reduction of a cobble of raw material.
Secondary Flake	Unmodified flake having prepared striking platform. Generally there are several dorsal flake scars. Associated with the initial formation and thinning of a biface.
Tertiary Flake curved on both Associated with	Unmodified flake with no cortex on the dorsal surface, numerous dorsal scars running in several directions and prepared, lipped striking platforms. Such flakes are generally very thin and are highly along the longitudinal axis. Lipped flakes can have flake scars the dorsal and ventral surfaces, adjacent to the platform. advanced thinning and shaping of bifaces and tool finishing.
Shatter	Pieces of material produced during lithic reduction having no definable dorsal surface. The piece generally has no definite flake attributes (striking platform, bulb of percussion, etc.)
Core	Any nucleus of raw material from which flakes have been detached.
Tested Cobble	Nucleus having only one or two flakes detached.
Projectile Point	Generally a bifacially flaked implement with pointed distal end and basal modification for hafting to a shaft. Its primary function is assumed to have been the killing of game.
Scraper	Generally a unifacially-flaked implement with a steep, convex working edge. Used edge generally exhibits distinctive step fracturing use wear.
Biface	An implement with both the dorsal and the ventral surfaces displaying flake scars across the entire surface. It may represent a fragment of a finished projectile point in some specimens, but is generally interpreted as an intermediate tool form serving as both a knife and a flake core that was continually refined as it became worn.
Modified Flake	Flake with an intentionally modified edge.
Utilized Flake	Flake showing edge modification and use-wear.
Ground Stone	Generally a larger-grained stone or one with a rough surface texture used to reduce the material being ground to a different shape or consistency.
Ground	Use-wear usually results in flattened and smoothed surface(s). stones include arrow shaft abraders, metates and manos.

Paleontological Procedures

The field crew was instructed to note any fossil indications along outcrops. Because of the ubiquitous nature of fossilized wood and bivalve shells, the recording of fossil locations was confined to vertebrate fossil or unique finds. Two localities of vertebrate fossil discoveries were found. One fossil bone fragment was found at prehistoric cultural site 24PR2310 and it appears to be well worn and out of primary context. The other locality, 24PR2346, includes three pieces of fossil bone, including a small reptilian (champsosaur) vertebra. This locality may be eroded from exposed shales. Paleontologist Rebecca Hanna was consulted as to the identification of the latter specimen, and the expected paleontological content of the Fort Union Formation in general (Hanna 2004).

Fort Union Formation Fossils (by Hanna 2004)

The Fort Union Formation contains Tertiary plant and animal fossils. Although dinosaur bones and teeth are occasionally found in the lowermost Fort Union Formation, these specimens are thought to have been reworked from Cretaceous-age deposits by Tertiary Period streams and thus are not in primary context. Fossils found in the Fort Union Formation include plants, wood, freshwater invertebrates, freshwater fish, amphibians, birds, reptiles, mammals, and trace fossils. Brown (1952) reports that well preserved fossil plants and petrified wood occur in the Fort Union Formation of eastern Montana, western North Dakota, and western South Dakota. The fossil leaves from the Fort Union Formation are well preserved and comparable to similar extant species (Perry 1962). In the Williston Basin of southeastern Montana, leaf fossils are abundant in the upper Lebo member and lower Tongue River member (Tamm 1989). The Olive locality in the Coalwood coal field of the Williston Basin has produced invertebrates, leaf impressions, mammals (multituberculates, insectivores, primates, condylarths, carnivores, marsupials, and pantodonts), and non-mammalian vertebrates (fish, salamander, turtle, champsosaur, crocodile) (Wolberg 1979). Mammals are found at sites around Glendive, Montana, where remains of multituberculates, condylarths, taeniondons, and primates occur near the base of the Fort Union Formation (Hunter et al. 1997). In addition, the Circle locality northwest of Glendive in the upper part of the Fort Union Formation (Tongue River member) has produced invertebrates and mammals (multituberculates, insectivores, primates, and condylarths) (Wolberg 1979).

In the Bighorn Basin northwest of Powell, Wyoming, discovery of bird and amphibian tracks near the base of the Fort Union Formation demonstrates the existence of these types of animals where their skeletal remains are unknown (Johnson 1986). Several quarries in the Fort Union Formation excavated in northwestern Wyoming by Princeton University, have produced mammal, amphibian, reptile, and fish remains (Estes 1975). In the Fort Union Formation east of Red Lodge, Montana, fossils were discovered in the roof of the Eagle Mine in a claystone unit (referred to by miners as the “bone” layer because of its light color) just above coal vein number 3 of the Red Lodge coal field (Simpson 1928). A champsosaur skeleton (specimen number MOR 772; locality number FU-157) was found in one of the coal mines in the Fort Union Formation east of Red Lodge in Carbon County and brought into the Museum of the Rockies at Montana State

University-Bozeman. Another champsosaur skeleton housed at Museum of the Rockies (specimen number MOR 982; locality number FU-189) was discovered in a Musselshell County coal mine, also in the Fort Union Formation. The Crazy Mountain Basin, which is thought to be a northwest extension of the Bighorn Basin of northwestern Wyoming and south-central Montana, contains numerous fossil localities (Douglass 1909; Gingerich et al. 1983; Krause and Gingerich 1983; Simpson 1936, 1937). Although most of the Fort Union Formation fossil localities occur north and east of the Crazy Mountains, several localities have been found in the western part of the basin where plants, eggshell fragments, invertebrates, birds, fish, amphibians, reptiles, and mammals occur (Gingerich et al. 1983).

A fossilized bone found in the Fort Union Formation (24PR2346) is identified as the centrum of a dorsal vertebra from a champsosaur. Champsosaurs are aquatic reptiles that have a body proportion and lifestyle similar to modern crocodilians (Carroll 1988). Champsosaurs survived the K-T extinction event that resulted in the disappearance of the dinosaurs, and occur in Lower Cretaceous through Eocene sedimentary rocks (Carroll 1988; Romer 1966). Although these animals are predominantly aquatic, champsosaurs were not restricted to this type of environment. In particular, females may have been better adapted to a terrestrial lifestyle due to nesting behavior on land (Katsura, 2004).

CHAPTER 5. IDENTIFIED CULTURAL RESOURCES

A total of 124 sites, 90 Minimal Activity Loci (MALs), and two (2) loci of paleontological remains were identified within the project area. The site total does not include 15 previously recorded sites that could not be relocated with confidence (discussed below). The following is a summary of identified cultural resources. Site descriptions are located in Chapter 6, and the site and MAL forms in Volume II contain additional information.

Of the 117 sites with prehistoric components, 113 sites consist solely of prehistoric material, and four (4) contain both prehistoric and historic material (mostly graffiti in combination with prehistoric manifestations). Seven (7) sites consist solely of historic and/or modern material. Six of the historic sites are homesteads, five of which are abandoned and deteriorated, and one of which is a functioning ranch complex. Most of the prehistoric components are lithic scatters that are located in upland environments. Fourteen (14) sites contain stone rings- many are ill-defined or otherwise questionable. The majority of these are located on benches overlooking Otter Creek.

At least one site contains a panel of aboriginal petroglyphs (24PR2317). The panel includes one shield-bearing warrior and three V-neck figures. The motifs represented in the panel appear to coincide with Keyser and Klassen's (2001) "Ceremonial" and/or "Biographic" traditions which span a time covering portions of the Late Prehistoric, Protohistoric and Historic periods. The panel is in excellent condition and has not been defaced.

Of the 65 sites that were previously recorded within the project area (62 in the CRIS files plus three sites newly-recorded by DNRC), 50 sites were relocated and 15 sites could not be found. Of the 50 relocated sites, 32 underwent a complete re-recording of the surface and 14 were updated (underwent supplementary recordation and/or monitoring). Five sites were found to be adequately and very recently recorded (2000, 2004), and no further work was conducted. Site 24PR1965, recorded in 2000 by Mike Bergstrom of the U.S. Forest Service, consists of a long series of road culverts constructed by the Civilian Conservation Corps (Bergstrom 2001). Four prehistoric sites within the project area were recorded by DNRC archaeologist Patrick Rennie in June, 2004, approximately two weeks prior to the beginning of the current fieldwork: 24PR2253, 24PR2254, 24PR2255, and 24PR676/677 (the last combining two previously recorded sites). Concise descriptions of these sites are included in Chapter 6 and the site forms are included in Appendix A.

None of the sites were evaluated for the NRHP during the current project. However, six sites were previously recommended as eligible for the NRHP. Sites determined previously eligible included: 24PR599, 24PR593, 24PR596, 24PR597, 24PR591 and 24PR1965. These are discussed further in Chapter 3. One of the sites determined eligible could not be relocated with confidence during the current project (24PR596). This site was reported to contain cairns and a lithic scatter. Although MAL73 (one flake and one biface) was found in the vicinity, no cairns were observed.

The 90 Minimal Activity Loci (MALs) documented during the inventory include from one to five artifacts and nearly all are located in deflated, upland environments. All but two (farm implements) are prehistoric in age. A total of 28 consist of only one artifact. Most consist solely of debitage (flakes and core fragments). Three consist of isolated projectile point or knife fragments. One of these, a probable Besant projectile point (M26) that appeared to be made of Knife River Flint, was collected.

Artifacts considered temporally diagnostic include a large corner notched projectile point (Archaic?) at site 24PR566, a Late Archaic corner notched projectile point at 24PR2281, a beveled knife fragment and large preforms (Late Archaic?) at 24PR2290, a possible Late Archaic projectile point fragment at 24PR2291, a bifacial knife considered possibly Late Prehistoric in age at 24PR55, a Late Archaic projectile point at 24PR56, a Late Prehistoric projectile point at 24PR57, an atlatl sized (probably Archaic) projectile point fragment at 24PR2319, a Middle Archaic McKean Complex (Duncan subtype) projectile point at 24PR593, a possibly Middle Archaic medial fragment at 24PR583/585/586, a Late Archaic corner notched specimen at 24PR2334, an arrow-sized preform (Late Prehistoric) and a Late Archaic corner notched projectile point at 24PR40/42/44/46, a probable Late Prehistoric projectile point fragment at 24PR2339, and the possible Besant projectile point recorded as M26 and mentioned above. In addition, petroglyphs at 24PR2317 suggest a Late Prehistoric timeframe.

Diagnostic artifacts (usually collected) during the early phases of work in the 1970s are generally not well described. However, they include a Late Prehistoric projectile point at 24PR573 in 1979, a possible Powers-Yonkee (Late Archaic) projectile point at 24PR55 in 1975, and Late Archaic and Late Prehistoric projectile points collected from 24PR43/45/48 in 1975. Other possible diagnostics at the previously recorded sites are too vaguely described to determine a temporal affiliation.

Three artifacts were collected during the inventory. Collected artifacts include M26 mentioned above, specimen A6 from 24PR40/42/44/46, a possible projectile point preform, and a fragment of a large (rifle) diameter percussion cap from site 24PR2271. These artifacts will be submitted to DNRC.

Fifteen sites could not be relocated with confidence. MALs were recorded in the vicinity of at least three of these (M45, 49 and 73), and in at least one case, a site was recorded very nearby. Documentation on many of the previously recorded sites, particularly those recorded in the early 1970s, is scanty indeed, and would be found wanting by today's standards. It is likely that many sites were misplotted. In most cases, legal descriptions extended to only two quarter sections, narrowing the area down to only 40 acres. Many if not most of the site forms do not include a sketch map, and practically none include photographs, although photo logs are often present. Other possibilities are that sites have been totally collected (by amateurs and by the original recorders), have eroded away, or are totally obscured by vegetation.

Many of the previously recorded sites were found to be substantially greater in area than initially reported, and many previously recorded sites were combined with each other or with additional loci of activity identified during the current fieldwork. A total of 21 sites have

been combined, with the largest combination consisting of four previously recorded sites. Two sites (24PR676 and 677) were combined by Patrick Rennie of DNRC. Several sites are constituted of three previously recorded sites. Combined sites are labeled with the site numbers separated by slashes (e.g. 24PR43/45/48).

Two localities of vertebrate fossils were found. One fossil bone fragment lies on a prehistoric site 24PR2310 and appears to be well worn and out of context. The other locality includes three pieces of fossil bone, including a small reptilian vertebra recorded as Smithsonian site number 24PR2346. Paleontologist Rebecca Hanna was consulted as to the potential identification of the latter specimen and the expected paleontological content of the Fort Union Formation in general.

Figures 5-1 through 5-6 depict the locations of the sites, MALs and paleontological loci. The figures are based on the USGS quadrangles *Willow Crossing* (1966), *Coleman Draw* (photo-revised 1985), *Yager Butte* (photo-revised 1985), and *King Mountain* (1995). Tables 5-1 lists and concisely describes the sites and paleontological remains. Table 5-2 lists the MALs.

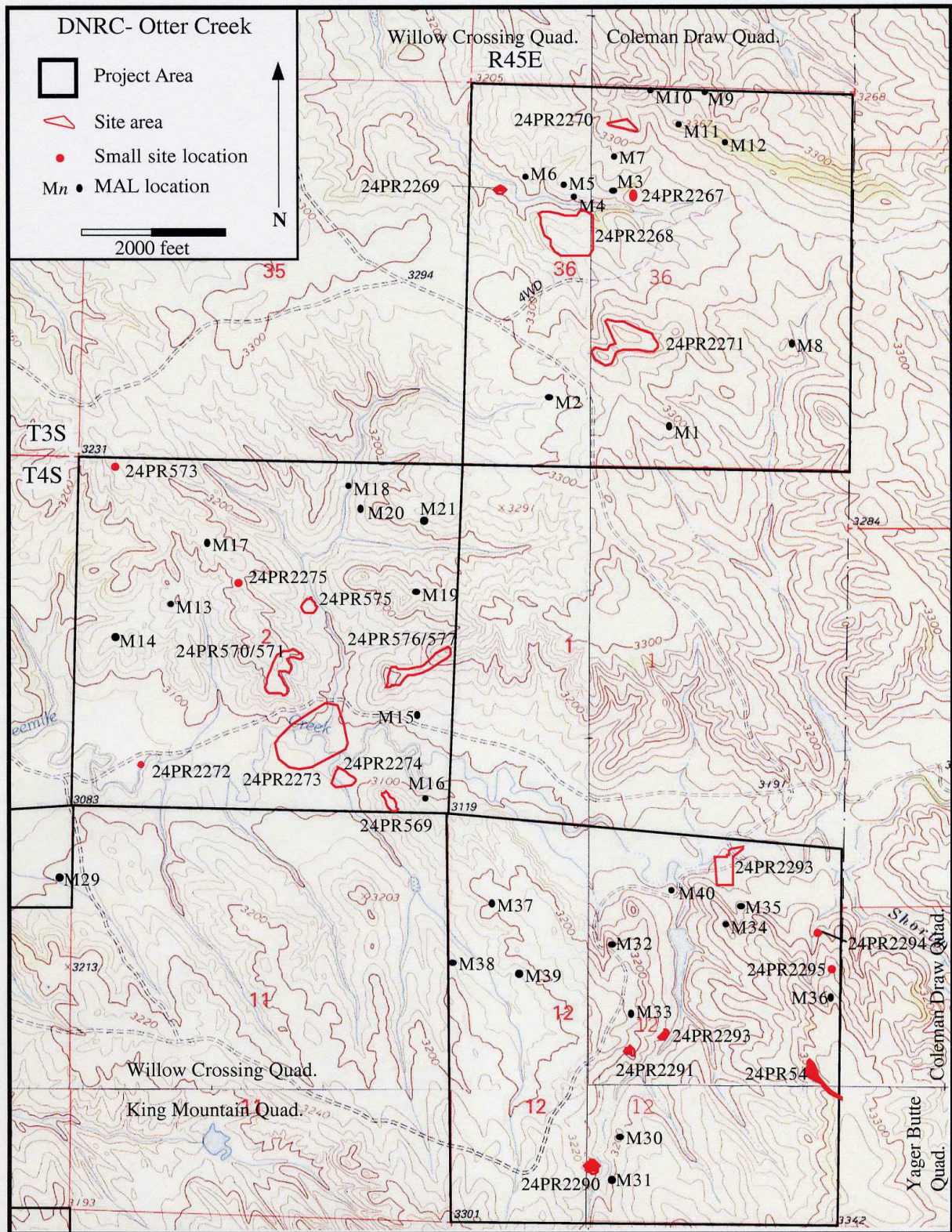


Figure 5-1. Map showing the locations of sites and MALs in Section 36, T3S R45E and Sections 2 and 12, T4S R45E.

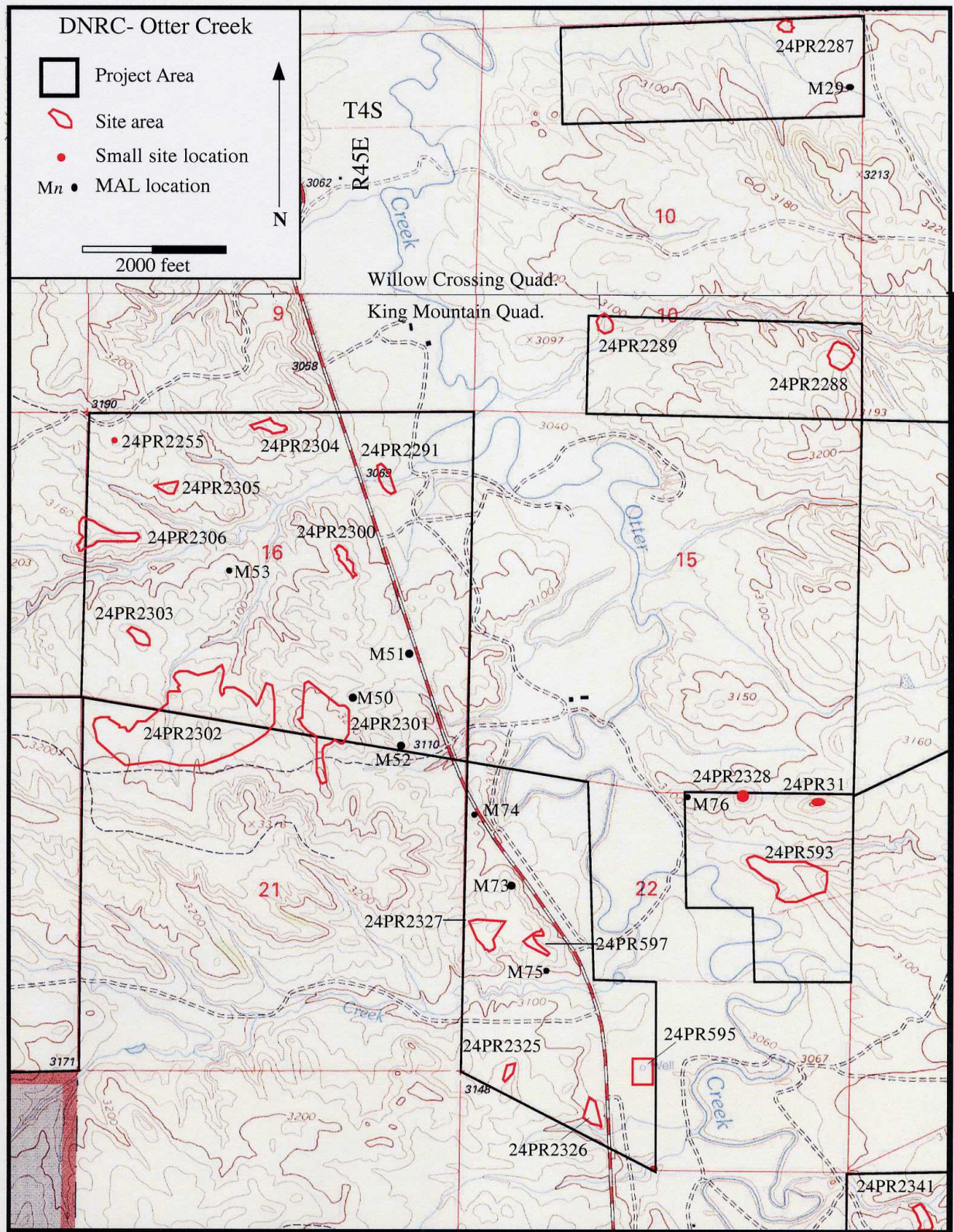


Figure 5-3. Map showing the locations of sites and MALs in Sections 10, 16 and 22, T4S R45E.

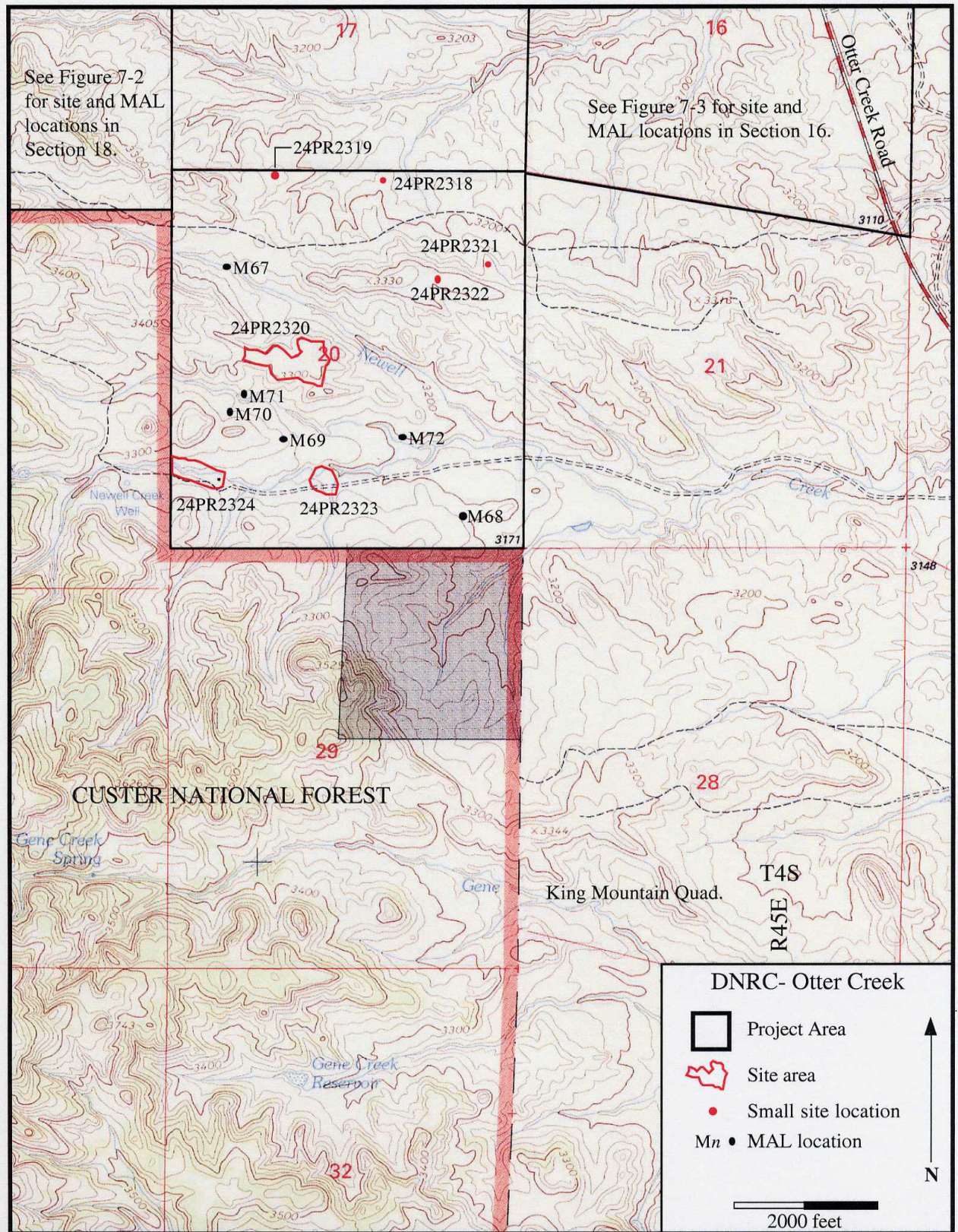


Figure 5-4. Map showing the locations of sites and MALs in Section 20, T4S R45E.

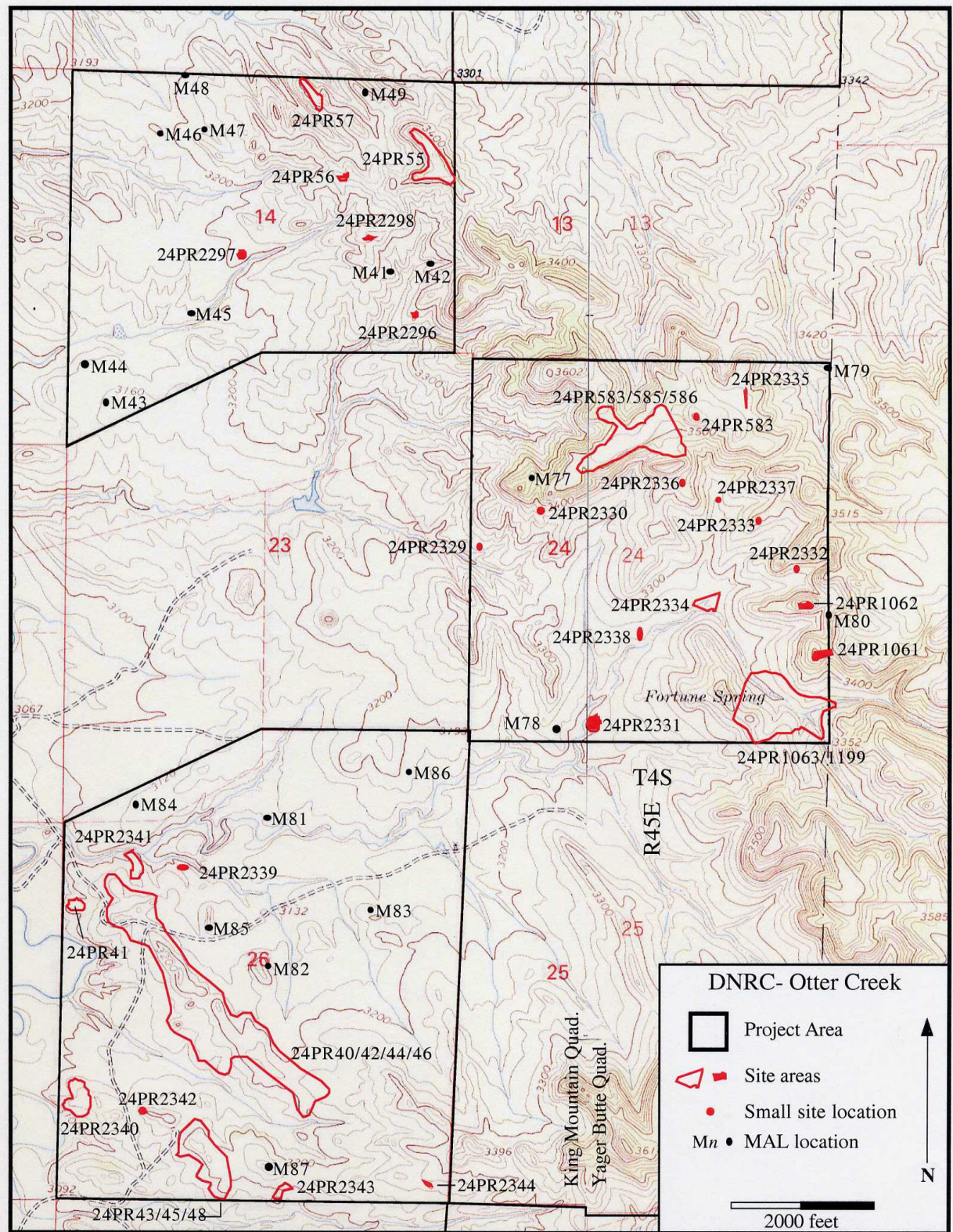


Figure 5-5. Map showing the locations of sites and MALs in Sections 14, 24 and 26, T4S R45E.

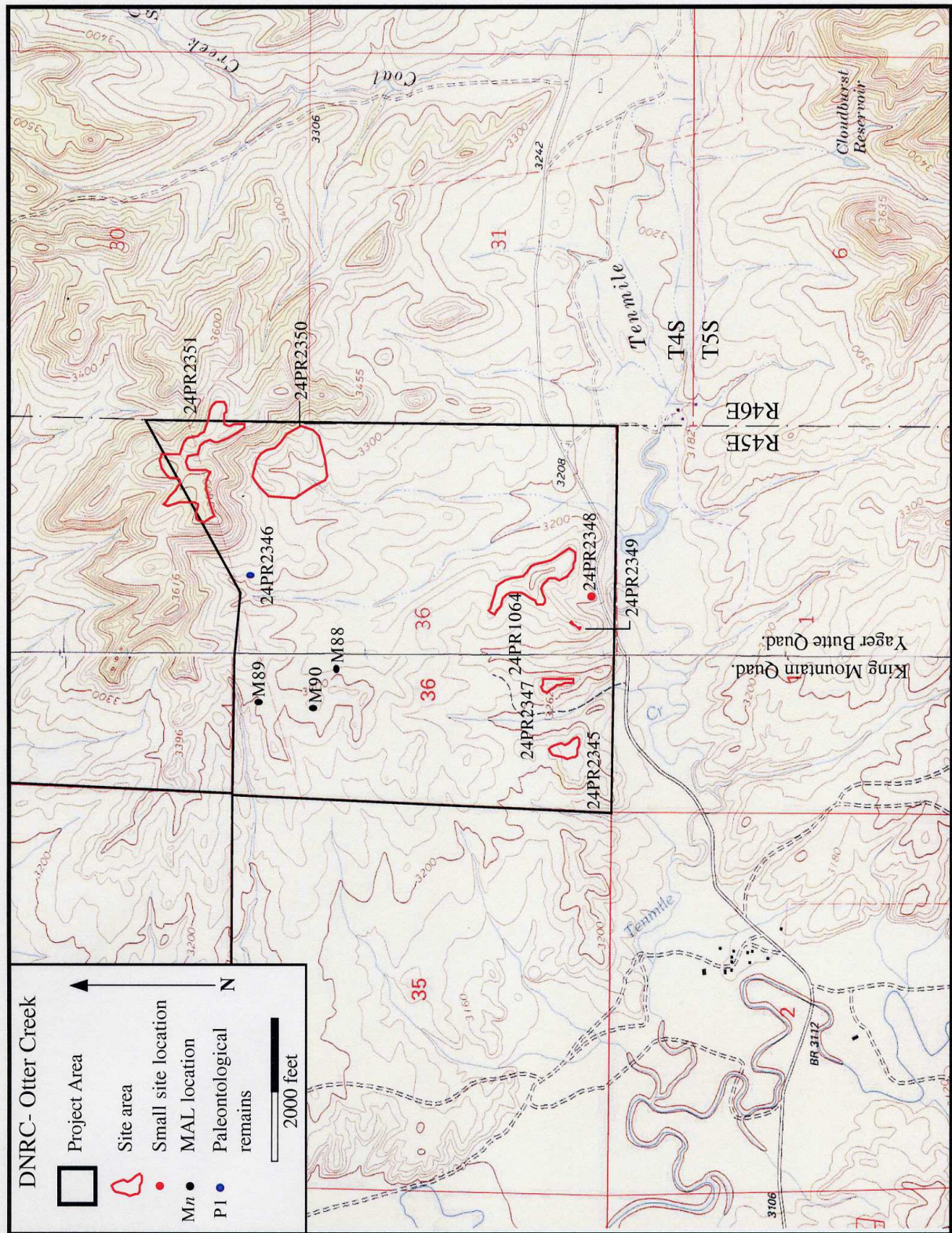


Figure 5-6. Map showing the locations of sites, MALs and paleontological remains in Section 36, T4S R45E.

Table 5-1. List of identified sites.

Section 36, T3S R45E							Testing Complexity.			Comments		
Site No.	Field #/Name	Section	Northing	Easting	USGS map	Site Type	low					
24PR2267	36B20	NENWNESENW 36	5042652	412334	<i>Coleman Draw</i>	lithic scatter						
24PR2268	36D16	SWNESENW, WSESENW, SWSEWNW, NWNWNESEW, NESESWNW 36	5042574 5042476	412149 411990	<i>Willow Crossing</i> <i>Coleman Draw</i>	campsite(s), lithic scatter	high					
24PR2269	36D17	NENWSWNW 36	5042716	411779	<i>Willow Crossing</i>	lithic scatter	moderate					
24PR2270	G24	SWNENENW, SESENWNENW 36	5042926 5042993	412359 412305	<i>Coleman Draw</i>	camp?	low					
24PR2271	36W1	SENESEW, SESWNESW 36	5042014	412212	<i>Willow Crossing</i>	lithic scatter, possible campsite	moderate					
Section 2, T4S R45E							Testing Complexity			Comments		
Site Nos.	Field #/Name	Section	Northing	Easting	USGS map	Site Type	low					
24PR569		SESWSESE 2	5040160	411260	<i>Willow Crossing</i>	cairn, lithic scatter						
24PR570/571		SWNWSE, WSWNWSE, SESNWNWSE, SESNWNWSE 2	5040600 5040780	410800 410920	<i>Willow Crossing</i>	lithic scatter	low					
24PR573		NENWNWNW 2	5041494	410175	<i>Willow Crossing</i>	lithic scatter, cairns	moderate				updated	
24PR575		SESENWSWNE, NENESWSWNE 2	5040984	410952	<i>Willow Crossing</i>	lithic scatter	low					
24PR576/577		SENESESE, NWNSENESE, NNWSENESE, NESWNESE 2	5040762	411514	<i>Willow Crossing</i>	lithic scatter	low					
24PR2272	2B32	NENWSESWSW 2	5040337	410247	<i>Willow Crossing</i>	lithic scatter	moderate					
24PR2273	2D24	NESWSE, WNWSEWSE, NNESWSWSE, NWNWSESWSE 2	5040476 5040415 5040352	410965 410990 410850	<i>Willow Crossing</i>	bison kill, campsite, processing area	high					
24PR2274	2D28	NESESWSE 2	5040224	411104	<i>Willow Crossing</i>	lithic scatter, possible hearth	moderate					

Table 5-1 (continued).

Section 2, T4S R45E (continued)		Section	Northing	Easting	USGS map	Site Type	Testing Complexity	Comments
Site Nos.	Field #/Name							
24PR2275	G32	NESWNESNW 2	5041063	410684	<i>Willow Crossing</i>	cairn?	low	
Section 6, T4S R45E		Section SWSWSENE, NWNESE, NESWNESE 6	Northing	Easting	USGS map	Site Type	Testing Complexity	Comments
Site No.	Field #/Name							
24PR52	6D16		5040762	404863	<i>Willow Crossing</i>	lithic scatter	high	nothing found; poor surface visibility
24PR563		ENESESE 6	5040348 5040379	405091 405105	<i>Willow Crossing</i>	stone rings, lithic scatter	high	updated
24PR564		NNWNWSW 6	50400851	403375	<i>Willow Crossing</i>	stone rings, lithic scatter	moderate-high	updated
24PR565		SWSWNW 6	5041669	403832	<i>Willow Crossing</i>	lithic scatter		updated
24PR566		SSESWNW 6	50401160	404431	<i>Willow Crossing</i>	stone ring (?), lithic scatter	moderate	updated; stone ring not found
24PR2253	OC-1	NENENESE 6	5041073	405058	<i>Willow Crossing</i>	lithic scatter	low	recorded by DNRC 2004
24PR2254	OC-2	NWSWSENE 6	5041308	404753	<i>Willow Crossing</i>	lithic scatter	low	recorded by DNRC 2004
24PR2276	6B18	CNWNW 6	5041486	403928	<i>Willow Crossing</i>	lithic scatter	moderate	
24PR2277	6B19	NWSWNENW 6	5041517	404160	<i>Willow Crossing</i>	stone ring, lithic scatter	moderate	
24PR2278	6D14	NESWNWSW 6	5040657	403778	<i>Willow Crossing</i>	campsite	high	buried, possibly stratified
24PR2279	6D15	SWSWNNWSW 6	5040521	403738	<i>Willow Crossing</i>	campsite, hearths	high	
24PR2280	G18	SNENWNENW 6	5041643	404216	<i>Willow Crossing</i>	stone rings	high	
24PR2281	G20	SWSWNNWSWSE 6	5040305	404366	<i>Willow Crossing</i>	lithic scatter	low	
24PR2282	6W3	SESWNWSE 6	5040567	404503	<i>Willow Crossing</i>	campsite	low	

Table 5-1 (continued).

Section 8, T4S R45E		Field #/Name	Section	Northing	Easting	USGS map	Site Type	Testing Complexity	Comments
Site Nos.	24PR28		SWSWSWSW 8	5038559	405290	<i>King Mountain</i>	lithic scatter	low	updated
	24PR29/676/677		NENE 8, W1/2W1/2NNWNW 9	5039995	406484	<i>Willow Crossing</i>	lithic scatter	high	recorded by DNRC 2004
	24PR599		NSESESE 8 and NWSWSWSW 9	5038612	406602	<i>King Mountain</i>	stone rings, lithics	low	updated; determined elig.- NRHP Keeper
	24PR600		SSNENESE, SENESE 8	5039037	406591	<i>Willow Crossing King Mountain</i>	lithic scatter	low	
	24PR678		NWNESWNE, ENENWSWNE, SWSENWNE 8	5039601	406129	<i>Willow Crossing</i>	stone rings	high	determined elig. by NRHP Keeper
	24PR679		WNWNWNWSE 8	5039128	405925	<i>Willow Crossing</i>	lithic scatter	moderate	remote loc.; updated
	24PR680		SWNWNWSW, NWSWNWSW 8	5039052	405307	<i>Willow Crossing</i>	lithic scatter	moderate	remote loc.; updated
	24PR682		SWSWSESE 8	5038517	406293	<i>King Mountain</i>	stone cairn	low	updated
	24PR705		WSWSWSW 8	5038603	405266	<i>King Mountain</i>	stone cairns, alignment, lithics	low	updated
	24PR2283	8D29	CNENWNESE 8	5039142	406487	<i>Willow Crossing</i>	cairn alignment	low	
	24PR2284	8D31	SESESENE 8	5039690	406721	<i>Willow Crossing</i>	cairn alignment	low	
	24PR2285	G36	SESESENWSW 8	5039003	405644	<i>Willow Crossing</i>	cairn? And flake	low	almost no soil
	24PR2286	G37	NNSWNESW, SSENNWESW 8	5039054	405785	<i>Willow Crossing</i>	lithic scatter	low-moderate	remote loc.
Section 10, T4S R45E		Field #/Name	Section	Northing	Easting	USGS map	Site Type	Testing Complexity	Comments
Site No.	24PR2287	10B33	NNWNENE 10	5040075	409744	<i>Willow Crossing</i>	lithic scatter	moderate	good setting on upper terrace
	24PR2288	10D7	NESESE 10	5038624	409868	<i>King Mountain</i>	cairn alignment	moderate	

Table 5-1 (continued).

Section 10, T4S R45E (continued)									
Site No.	Field #/Name	Section	Northing	Easting	USGS map	Site Type	Testing Complexity	Comments	
24PR2289	10W5	NENWSW 10	5038819	408963	<i>King Mountain</i>	homestead	low		
Section 12, T4S R45E									
Site No.	Field #/Name	Section	Northing	Easting	USGS map	Site Type	Testing Complexity	Comments	
24PR54		SNENESE, NESENESE 12	5039024	413022	<i>Coleman Draw Yager Butte</i>	lithic scatter	low-moderate	remote location	
24PR2290	12D21	C SESW 12	5038545	412123	<i>Yager Butte</i>	lithic scatter, possible campsite	moderate		
24PR2291	12D22	NENENESW 12	5039069	412267	<i>Coleman Draw</i>	campsite	low		
24PR2292	12D23	SWSESWSWNE 12	5039119	412448	<i>Coleman Draw</i>	campsite	moderate		
24PR2293	Lewis Homestead	NENWNE 12	5039863	412724	<i>Coleman Draw</i>	homestead	NA		
24PR2294	G29	SWSESENE 12	5039562	413088	<i>Coleman Draw</i>	lithic scatter	low		
24PR2295	G30	ESENESENE 12	5039396	413124	<i>Coleman Draw</i>	lithic scatter with possible groundstone implement	low		
Section 14, T4S R45E									
Site No.	Field #/Name	Section	Northing	Easting	USGS map	Site Type	Testing Complexity	Comments	
24PR55		SENESE, NENENESWNE 14 NWNWWSWNE 13	5037932	411425	<i>King Mountain</i>	lithic scatter	moderate		
24PR56	14D5	SSESENE 14	5037934	411058	<i>Coleman Draw</i>	lithic scatter	low		
24PR57	14W4	WNNENWNE, NENENWNE 14	5038239	410949	<i>King Mountain</i>	lithic scatter	low-moderate		
24PR2296	14B8	NWSESESE 14	5037356	411333	<i>King Mountain</i>	lithic scatter	low		
24PR2297	14D6	NWNENESWSW 14	5037554	410624	<i>Coleman Draw</i>	lithic scatter	low		
24PR2298	14W2	NWSWSENE 14	5037682	411217	<i>King Mountain</i>	lithic scatter	low		

Table 5-1 (continued).

Section 16, T4S R45E		Field #/Name		Section	Northing	Easting	USGS map	Site Type	Testing Complexity	Comments
Site No.	Field #/Name									
24PR2255	OC-3			S1/2NNWNWNW 16	5038550	406776	<i>King Mountain</i>	lithic scatter	low	recorded by DNRC 2004
24PR2299	16D1			NWSWNE 16	5038173	407933	<i>King Mountain</i>	historic road alignment / bridge	low	
24PR2300	16D3			SESWNESWNE, NENWSESWNE, NWSESWNE 16	5037809	407803	<i>King Mountain</i>	lithic scatter	low	
24PR2301	G48			SSWSE, SWSENWSWSE 16; EENWNWNE, SWNENWNE, NNWSENWNE 21	5037127 5037265 50370927 5037182	407628 407587 407774 407780	<i>King Mountain</i>	stone rings, cairns	high	
24PR2302	G49			SSESW, ESESWSW 16 NNNW, NNSNWNW 21	5037204	407345	<i>King Mountain</i>	camp	moderate	very large site, mostly deflated
24PR2303	G50			SWNESWSW, NESENWSWSW 16	5037524	406925	<i>King Mountain</i>	lithic scatter	low	
24PR2304	16W1			NNENENW, WNWNNWNWNE 16	5037397	407485	<i>King Mountain</i>	lithic scatter	low	
24PR2305	16W2			SNESENWNW, NSESENWNW 16	5038144	407062	<i>King Mountain</i>	lithic scatter	low	
24PR2306	16W3			NWSWNW, SWNESWSW EENESENE 16	5037953	406762	<i>King Mountain</i>	lithic scatter	low	
Section 18, T4S R45E		Field #/Name		Section	UTMs Northing	Easting	USGS map	Site Type	Testing Complexity	Comments
Site No.	Field #/Name									
24PR2307	18B12			SENEWSWSE 18	5037363	404787	<i>King Mountain</i>	lithic scatter, FCR	moderate	
24PR2308	18B13			NNESWSE 18	5037514	404667	<i>King Mountain</i>	lithic scatter	low	
24PR2309	18B16			SNSENE, NSESENE 18	5038154 5038118	405007 405122	<i>King Mountain</i>	lithic scatter, surf. lithic source	low	

Table 5-1 (continued).

Section 18, T4S R45E (continued)									
Site No.	Field #/Name	Section	UTMs		Easting	USGS map	Site Type	Testing Complexity	Comments
24PR2310	18D8	SSSENWNE, SENWNE 18	5038325	5038500	404730 404806	King Mountain	campsite, stone rings, lithic scatter, paleontological	high	
24PR2311	18D9	NWNNENW 18	5038661		404291	King Mountain	lithic scatter	low	
24PR2312	18D10	NNENWNENW 18 and SESWSESW 7	5038787		404180	King Mountain	lithic scatter	moderate	
24PR2313	18D11	NSENE 18	5038458		405142	King Mountain	campsite	low	
24PR2314	G9	SESENWSE 18	5037613		404794	King Mountain	lithic scatter	low	
24PR2315	G13	NWNWSENW, NSWNWSENW 18	5038258		404067	King Mountain	lithic scatter, camp, surf. lithic source	moderate-high	very remote loc.
24PR2316	G14	NSWNESENW, NWSNESENW, NESENWSENW 18	5038220		404328	King Mountain	lithic scatter, surf. lithic source	moderate	remote loc.
24PR2317	G17	ESWNWSW, WSENNWSW 18	5037697		403818	King Mountain	petroglyph, hist., modern graffiti	high	poor surf. vis. in meadow
Section 20, T4S R45E									
Site No.	Field #/Name	Section	Northings		Easting	USGS map	Site Type	Testing Complexity	Comments
24PR2318	G72	NWNWNENWNE 20	5037232		406083	King Mountain	lithic scatter and stone feature(?)	moderate	
24PR2319	G73	NNWNWNNW 20	5037263		405640	King Mountain	two tool lithic scatter	low	
24PR2320	G74	NNWNESW, WNNWNNESW, SSWSENW, SWSSENNW, SESESWNW 20	5036499 5036438		405548 405773	King Mountain	stone rings, cairn, lithic scatter	high	
24PR2321	20W1	SWSENENE 20	5036885		406520	King Mountain	lithic scatter	low	
24PR2322	20W2	CNWNWSENE 20	5036795		406410	King Mountain	stone rings, lithic scatter	high	

Table 5-1 (continued).

Section 20, T4S R45E (continued)									
Site No.	Field #/Name	Section	Northing	Easting	USGS map	Site Type	Testing Complexity	Comments	
24PR2323	Clark Homestead-East	SWNESESW, SENESESW 20	5035964	405839	King Mountain	homestead	NA		
24PR2324	Clark Homestead-West	NWSWSW, WNESWSW 20	5035985 5036020	405385 405200	King Mountain	homestead	NA		
Section 22, T4S R45E									
Site Nos.	Field #/Name	Section	Northing	Easting	USGS map	Site Type	Testing Complexity	Comments	
24PR31		NWNENENE 22	5036779	409745	King Mountain	lithic scatter	low	593 determined elig. by NRHP Keeper	
24PR593		NESENWNE, SWNENE, WSENE, NENWSENE 22	5036423 5036419	409802 409623	King Mountain	campsite, lithic scatter	high		
24PR595	West Homestead	NWNENENE 22	5035606	409023	King Mountain	homestead	NA	updated	
24PR597	G52	SENWSW 22	5036173	408612	King Mountain	stone ring, cairns lithic scatter	high	determined eligible by NRHP Keeper	
24PR2325	22B46	ESWSWSW 22	5035655	408452	King Mountain	lithic scatter, cairn			
24PR2326	22B47	ESWSWSW, NWSWSESESW 22	5035533	408805	King Mountain	lithic scatter, camp	high	on terrace of Otter Cr.	
24PR2327	G53	NSWNWSW, SSNNWSW 22	5036237	408339	King Mountain	stone rings lithic scatter	high		
24PR2328	22W2	NENENWNE 22	5036795	409410	King Mountain	lithic scatter	low		
Section 24, T4S R45E									
Site Nos.	Field #/Name	Section	Northing	Easting	USGS map	Site Type	Testing Complexity	Comments	
24PR583/585/586	24W1	SWNNWE, SENENW, NENWSENW, NWNESENW 24	5036790 5036900	412385 412525	Yager Butte and King Mountain	lithic scatter, prehistoric rock-shelter and historic graffiti	high		
24PR590		SESWSWNE 24	5036376	412448	Yager Butte	lithic scatter	low		
24PR1061/591		NENESESE 24 and WSWNWSWNW 16, T4S R46E	5035887	413008	Yager Butte	lithic scatter	low	remote location; 591 elig. by NRHP Keeper	

Table 5-1 (continued).

Section 24, T4S R45E (continued)		Section	Northing	Easting	USGS map	Site Type	Testing Complexity	Comments
Site Nos.	Field #/Name							
24PR1062		NSENESE 24	5036105	412987		lithic scatter	low	
24PR1063/1199		SSESE, SNWSESE, SWSWNESESE 24 and SWSWSWNW 19, T4S R46E	5035635 5035631 5035626 5035675	413021 412908 412787 412953	<i>Yager Butte</i>	campsite complex	high	
24PR2329	24B35	SWSWSWSWNW 24	5036355	411606	<i>King Mountain</i>	lithic scatter, poss. groundstone	low	
24PR2330	24B37	NSESWNW 24	5036481	411855	<i>King Mountain</i>	lithic scatter	low	remote location
24PR2331	24D32	SWSESESW 24	5035643	412084	<i>King Mountain and Yager Butte</i>	campsite complex	moderate	
24PR2332	24D34 Fortune Cabin	NENWNESE 24	5036267	412965	<i>King Mountain</i>	campsite	low	
24PR2333	24D36	SENWSWSENE 24	5036443	412767	<i>Yager Butte</i>	campsite	low	
24PR2334	G38	NSENWSE, SNENWSE 24	5036101	412522	<i>Yager Butte</i>	camp	high	deeply buried
24PR2335	G40	SWNWNENE 24	5036989	412736	<i>Yager Butte</i>	lithic scatter	low-moderate	remote location
24PR2336	24W2	SWNESWNE 24	5036585	412493	<i>Yager Butte</i>	lithic scatter	low	
24PR2337	24W3	SWSENESEWNE 24	5036601	412722	<i>King Mountain</i>	campsite	low	
24PR2338	24W4	SWSWSWNWSE 24	5035954	412307	<i>King Mountain</i>	campsite	moderate	
Section 26, T4S R45E		Section	Northing	Easting	USGS map	Site Type	Testing Complexity	Comments
Site Nos.	Field #/Name							
24PR40/42/44/46		NENESW, NSENNWSE, SWNNWSE, SWSWSE, NWSESESE 26	5034849 5034562 5034337 5034265 5034242 5034060	410176 410332 410322 410518 410572 410948	<i>King Mountain</i>	lithic scatter	high	

Table 5-1 (continued).

Section 26, T4S R45E (continued).									
Site Nos.	Field #/Name	Section	Northing	Easting	USGS map	Site Type	Testing Complexity	Comments	
24PR41		SWSWNWSW, WSESWNWSW, NNWNWSWSW, NWNENWSWSW 26	5034870	409958	King Mountain	campsite, lithic scatter	moderate		
24PR43/45/48		SESW 26	5033887 5033756	410405 410470	King Mountain	rock shelter camp	high	PR48 determined ineligible	
24PR2339	26D38	NWNESWNENW 26	5035015	410377	King Mountain	lithic scatter	moderate		
24PR2340	26D40	SWSWNWSW, WSESWNWSW, NNWNWSWSW, NWNENWSWSW 26	5034074	409936	King Mountain	lithic scatter	moderate		
24PR2341	26D42	SWNENWNW 26	5035042	410094	King Mountain	lithic scatter	moderate		
24PR2342	G44	NENENESWSW 26	5033983	410180	King Mountain	lithic scatter, historical graffiti, poss. petroglyphs	low	petroglyphs very questionable	
24PR2343	G46	SSWSWSWE 26	5033614	410720	King Mountain	lithic scatter	low		
24PR2344	Malvaney homestead	SESESESE 26	5033662	411374	King Mountain	homestead, isolated flake	NA		
Section 36, T4S R45E									
Site Nos.	Field #/Name	Section	Northing	Easting	USGS map	Site Type	Testing Complexity	Comments	
24PR1064	24PR1064	SWNWSWE, NWSWSE, NWNESWSWE 36	5032173	412408	Yager Butte	stone rings, lithic scatter	moderate		
24PR1965		SWSWSWSWE 36			Yager Butte	historic CCC culverts	low	consensus eligible; no additional work	
24PR2345	36B5	SWNESWSW, NWSWSW 36	5032223	411643	King Mountain	stone rings	high	includes possible billet	
24PR2346	36D2	SWSWNENWNE 36	5033440	412390	Yager Butte	*paleontological remains	NA	*Note: not a cult. site	

Table 5-1 (continued).

Section 36, T4S R45E (continued) Site No.	Field #/Name	Section	UTMs Northing	Easting	USGS map	Site Type	Testing Complexity	Comments
24PR2347	36D3	SNWSESW, NESWSESW 36	5032270	411851	<i>King Mountain</i>	lithic scatter	low	
24PR2348	G2	CSWSWSE 36	5032043	417257	<i>Yager Butte</i>	stone rings	high	
24PR2349	G3	NESESESW 36	5032105	412122	<i>Yager Butte</i>	stone rings	high	
24PR2350	LL36	SNENE, NSENE 36	5033249	412913	<i>Yager Butte</i>	lithic scatter, surf. lithic source	low	
24PR2351	36W1	ESENE, NENENE, NWNENE, NSWNENE 36; SESESE 25 NWNWSWSW 30, T4S R46E	5033403	412987	<i>King Mountain</i>	lithic scatter	low	

Probable Testing Complexity

High = extensive mapping, several subsurface tests required, possibly also requires gradiometer testing

Moderate = some feature mapping (i.e. a few stone rings) and a few subsurface tests required

Low = A few small shovel tests should confirm the lack of a subsurface component

*Some sections are irregularly shaped. The nearest corner is used to align the template.

Table 5-2: List of Minimal Activity Loci (MALs).

Isolate No.	Field No.	Resource Type	T	R	Section	Easting	Northing	Description
M1	36B2	prehist. isolate	3S	45E	NENWSWSWSE Section 36	412483	5041701	5 flakes
M2	36W2	prehist. isolate	3S	45E	SWNENESWSW Section 36	411960	5041816	modified flake
M3	36B21	prehist. isolate	3S	45E	NWNWNESENW Section 36	412261	5042691	3 flakes
M4	36B22	prehist. isolate	3S	45E	NWNWNWSENW Section 36	412071	5042678	3 flakes
M5	36B23	prehist. isolate	3S	45E	NENENESWNW Section 36	412043	5042733	5 flakes
M6	36B24	prehist. isolate	3S	45E	SWSWSENWNW Section 36	411894	5042749	2 flakes
M7	36B25	prehist. isolate	3S	45E	SWNWSSENENW Section 36	412267	5042822	2 flakes
M8	36B26	prehist. isolate	3S	45E	SENESEWNESE Section 36	412987	5042035	large biface
M9	36G21	prehist. isolate	3S	45E	NENENWNWNE Section 36	412639	5043101	4 flakes
M10	36G22	prehist. isolate	3S	45E	NENENENENW Section 36	412405	5043112	5 flakes
M11	36G25	prehist. isolate	3S	45E	SESWNWNWNE Section 36	412560	5042966	core
M12	36G26	prehist. isolate	3S	45E	NENWSENWNE Section 36	412714	5042898	3 flakes
M13	2B30	prehist. isolate	4S	45E	NENESESWNW Section 2	40379	5040969	scraper
M14	2B31	prehist. isolate	4S	45E	SESESWSWNW Section 2	410153	5040841	4 flakes
M15	2D26	prehist. isolate	4S	45E	NENWNESESE Section 2	5040482	411398	5 flakes
M16	2D27	prehist. isolate	4S	45E	NWSESESESE Section 2	411425	5040132	1 flake
M17	G33	prehist. isolate	4S	45E	SWSESWNENW Section 2	410554	5041207	4 flakes

Isolate No.	Field No.	Resource Type	T	R	Section	Easting	Northing	Description
M18	G34	prehist. isolate	4S	45E	SWNENENWNE Section 2	411139	5041460	2 flakes
M19	2W2	prehist. isolate	4S	45E	NESENWSENE Section 2	411405	5041002	biface
M20	2W3	prehist. isolate	4S	45E	SESENENWNE Section 2	411175	5041358	uniface
M21	2W100	prehist. isolate	4S	45E	NWNWSENE Section 2	411440	5041310	4 flakes
M22	6D13	prehist. isolate	4S	45E	SWSWNWNESW Section 6	404165	5040725	3 flakes
M23	G19	prehist. isolate	4S	45E	SENWNESWSW Section 6	403862	5040425	5 flakes
M24	6W1	prehist. isolate	4S	45E	NESWNESWNW Section 6	404121	5041174	5 flakes
M25	6W2	prehist. isolate	4S	45E	SWNWNESESW Section 6	404271	5040447	4 flakes biface fragment
M26	6W4	prehist. isolate	4S	45E	SWSWNENWSE Section 6	404667	5040736	Besant proj. point
M27	8B34	prehist. isolate	4S	45E	SESWNENWNE Section 8	406313	5039874	modified flake
M28	8D30	prehist. isolate	4S	45E	SWSWSESENE Section 8	406605	5039266	5 flakes
M29	10XW1	prehist. isolate	4S	45E	SENESENE Section 10	409910	503982	biface
M30	12B28	prehist. isolate	4S	45E	NENWNESESW Section 12	412235	5038673	core and 3 flakes
M31	12B29	prehist. isolate	4S	45E	NENWSESESW Section 12	412216	5038491	5 flakes
M32	12D19	prehist. isolate	4S	45E	SENWNESENW Section 12	412230	5039520	3 flakes
M33	12D20	prehist. isolate	4S	45E	SWSESESENW Section 12	412300	5039220	3 flakes
M34	G27	prehist. isolate	4S	45E	NWNENESWNE Section 12	412696	5039584	2 flakes

Isolate No.	Field No.	Resource Type	T	R	Section	Easting	Northing	Description
M35	G28	prehist. isolate	4S	45E	NESESENWNE Section 12	412754	5039664	3 flakes 1 core
M36	G31	prehist. isolate	4S	45E	NESESESENE Section 12	413124	5039273	5 flakes
M37	12W1	prehist. isolate	4S	45E	SESESWNWNW Section 12	411723	5039683	5 flakes
M38	12W2	prehist. isolate	4S	45E	NWNWSWSWNW Section 12	411546	5039426	3 flakes
M39	12W3	prehist. isolate	4S	45E	SENWSESWNW Section 12	411820	5039398	biface fragment
M40	12W4	prehist. isolate	4S	45E	SENWSWNWNE Section 12	412471	5039726	1 flake
M41	14B6	prehist. isolate	4S	45E	NWNENWNESE Section 14	411245	5037527	5 flakes
M42	14B7	prehist. isolate	4S	45E	SWSESESENE Section 14	411392	5037545	core
M43	14B9	prehist. isolate	4S	45E	SESENWSWSW Section 14	410083	5036972	3 flakes
M44	14B10	prehist. isolate	4S	45E	NENWNWSWSW Section 14	409978	5037143	modified flake
M45	G4	prehist. isolate	4S	45E	NWNESWNESW Section 14	410418	5037354	core
M46	G5	prehist. isolate	4S	45E	NENESENWNW Section 14	410312	5038128	projectile point or knife fragment
M47	G6	prehist. isolate	4S	45E	NENESWNENW Section 14	410470	5038134	1 flake
M48	G7	prehist. isolate	4S	45E	NENWNWNENW Section 14	410427	5038374	modified flake 1 flake
M49	14W3	prehist. isolate	4S	45E	SWNWNWNENE Section 14	411177	5038268	core
M50	16B45	prehist. isolate	4S	45E	NWNENESWSE Section 16	407828	5037225	biface
M51	16D2	prehist. isolate	4S	45E	NENESWNESE Section 16	408040	5037410	5 flakes and spalls

Isolate No.	Field No.	Resource Type	T	R	Section	Easting	Northing	Description
M69	G75	prehist. isolate	4S	45E	NWSESWNESW Section 20	405639	5036144	1 flake
M70	HS20-1	historic isolate	4S	45E	NWNESENWSW Section 20	405430	5036247	farm implement
M71	20W3	prehist. isolate	4S	45E	NESENEENWSW Section 20	405490	5036335	2 flakes
M72	20W4	prehist. isolate	4S	45E	NWSWSENEWSE Section 20	406149	5036147	4 flakes
M73	G54	prehist. isolate	4S	45E	NWNWNESWNW Section 22	408434	5036489	1 flake 1 stage II biface
M74	G55	prehist. isolate	4S	45E	NWSWSWNWNW Section 22	408282	5036798	4 flakes
M75	G56	prehist. isolate	4S	45E	SWSESESWNW Section 22	408606	5036058	4 flakes
M76	22W1	prehist. isolate	4S	45E	NWNENWNWNE Section 22	409221	5036810	3 flakes 1 tested cobble
M77	24B36	prehist. isolate	4S	45E	NENESWNW Section 24	411831	5036656	2 flakes
M78	24B38	prehist. isolate	4S	45E	SESWSWSESW Section 24	411925	5035566	1 modified flake 1 flake
M79	G41	prehist. isolate	4S	45E	NENENENENE Section 24	413101	5037132	modified flake
M80	G42	prehist. isolate	4S	45E	SENESENESE Section 24	413055	5036049	5 flakes
M81	26B39	prehist. isolate	4S	45E	SESESENEENW Section 26	410702	5035226	preform fragment
M82	26B40	prehist. isolate	4S	45E	NWNWSWSWNE Section 26	410709	5034604	1 flake
M83	26B42	prehist. isolate	4S	45E	SWSWSWSENE Section 26	411136	5034811	5 flakes
M84	26B43	prehist. isolate	4S	45E	NWSWSENEWNW Section 26	410143	5035144	3 flakes
M85	26D37	prehist. isolate	4S	45E	SWNWNESENW Section 26	410470	5034760	3 flakes

Isolate No.	Field No.	Resource Type	T	R	Section	Easting	Northing	Description
M86	G43	prehist. isolate	4S	45E	SESENWNENE Section 26	411285	5035429	1 biface fragment 1 core, 2 flakes
M87	G45	prehist. isolate	4S	45E	SENWSWSWSE Section 26	410684	5033757	4 flakes
M88	36B3	prehist. isolate	4S	45E	NWNENWSENW Section 36	411969	5033116	1 flake
M89	36B4	prehist. isolate	4S	45E	NESENENWNW Section 36	411826	5033439	1 core
M90	36D4	prehist. isolate	4S	45E	NESESENWNW Section 36	411799	5033215	3 flakes

Isolates were not collected. No further work is recommended at these locations; they are not considered archaeologically significant.

CHAPTER 6. SITE NARRATIVES

Site narratives are a general summary of information on each site. The narratives are organized by section, north to south, and then according to the numerical order of their Smithsonian numbers. Previously recorded sites for which no changes were made during the current project are not included in the narratives. The complete site inventory forms and isolated find forms are located in Volume II. The site forms contain site sketch maps, photographs and other information specific to each site.

Section 36 T3S R45E

24PR2267 - 36B20

Legal Location: T3S R45E, NENWNESENW Section 36

Elevation: 3240 ft

Cultural Period: Prehistoric

Site Type: Lithic scatter

Description: The site is a small lithic scatter measuring about 23 m east-west by 50 m north-south. The site is situated on a bench lobe overlooking an unnamed southern ephemeral tributary of Home Creek, a tributary of Otter Creek and the Tongue River. The unnamed tributary is about 30 m to the south and Home Creek is about 2.5 km to the northwest. Vegetation includes prairie grasses, sage, prickly pear cactus, with ponderosa pines on the fringe of the bench lobe and in the drainage below. Sediments appear to consist of sand loam. Surface visibility was about 20%. The site setting is stable to moderately erosive. The site affords limited views, restricted by trees and higher terrain, of the surrounding country. Observed cultural material consists of 25+ porcellanite flakes. No tools were observed.

24PR2268 - 36D16

Legal Location: T3S R45E, SWNESENW, WSESENW, SWSSENW, NWNWNESW, NESESWNW Section 36

Elevation: 3120 feet (951) to 3160 feet (963 m)

Cultural Period: Prehistoric

Site Type: campsite(s), lithic scatter

Description: The irregularly shaped site area is 200 m east-west by 200 m north-south. The site area is complex in terms of topography and line-of-sight is not possible between the north (Datum) and south (Station) areas of the site. The "Datum Area" incorporates a clearly defined lobe-shaped terrace landform on the south bank of a major unnamed ephemeral tributary of Otter Creek. Seasonal water or seeps probably occur along this drainage. This terrace landform extends northward from a higher ridge to the south. Cultural material observed in the Datum area includes: a scatter of rapidly-cooled sandstone FCR; a Stage II porcellanite biface (A1), 10 m at 350 degrees from datum; a cluster of rocks (possibly a disarticulated stone ring) 24 m at 145 degrees; a red chert

secondary reduction flake; and about 30 porcellanite flakes. Most of the flakes observed are secondary reduction (biface thinning flakes) with ground, bifacial striking platforms suggesting concentrated production of late stage bifaces in this area. The terrace is stable to depositional and has fairly high potential for a buried component.

The south mapping “Station” area includes the ridge spine, various lobes and saddles on the ridge and also a small basin on the south side of the ridge. The south station mapping datum marker was placed on a “shelf” or ledge to the southwest of the ridge spine.

Cultural material in this area includes five eroding hearth features and a dense concentration of about 150 porcellanite flakes and FCR eroding from the slopes on the north and south margins of the ridge spine. These clearly indicate a buried cultural deposit in that area. Feature 1 (31 m at 160 degrees from the South Station) is eroding from a one-meter high cut bank located in a small basin 6 m below the station at the head of a small tributary arroyo. The arroyo complex flows into the main drainage about 500 m to the northwest. The feature consists of a sandstone slab-lined hearth that is partially spilling out of the cut bank. Feature 2 (4.5 m at 54 degrees) is a 30 cm diameter cluster of oxidized sandstone slabs and FCR eroding out of the same mid-level landform as the South Station and Feature 3. Feature 3 (36 m at 305 degrees) is a 100 by 60 cm diameter cluster of sandstone FCR and one large porcellanite core. It appears to be fully deflated on a weathered bedrock ledge. Features 4 (52 m at 74 degrees) and 5 (37 m at 27 degrees) are located on the ridge spine that divides the South Station area from the Datum Area. Feature 4 is a 60 cm diameter cluster of about 50 small pieces of oxidized sandstone and FCR. Feature 5 is a 50 cm diameter cluster of small pieces of sandstone FCR.

Widely scattered debitage is observed on several mid-level lobes and ledges, and extends to the northwestern tip of the ridge top. Most of these areas are on weathered bedrock surfaces and are probably unlikely to yield additional information.

24PR2269 - 36D17

Legal Location: T3S R45E, NENWSWNW, Section 36

Elevation: 3242 feet (988 m)

Cultural Period: Prehistoric

Site Type: lithic scatter

Description: The lithic scatter site, as observed, has an area of about 30 m east-west by 40 m north-south. The site is located on a lobe-shaped 2nd terrace on the southwest bank of a southeast-to-northwest trending, unnamed, ephemeral drainage. For reference, the site datum is 35 m south of the drainage channel. Cultural material observed includes about 20 primary and secondary flakes, all of porcellanite. No tools or features were observed.

24PR2270 - G24

Legal Location: T3S R45E, SWNENENW, SESENWNENW Section 36

Elevation: 3320-3340 ft

Cultural Period: Prehistoric

Site Type: camp?

Description: The site is a possible small aboriginal camp occupying an area measuring about 120 m east-west by a maximum of 40 m north-south. The site is situated on a finger ridge overlooking an unnamed ephemeral tributary of Home Creek, which in turn is a tributary of Otter Creek and the Tongue River. The unnamed tributary is about 350 m to the south-southwest and Home Creek is about three kilometers to the northwest. On-site vegetation includes very sparse grasses, sage, yucca with a young ponderosa pine nearby. Sediments appear to consist generally of sandy and gravelly loams. The view from the site is very extensive to the west and southwest and is particularly good over the nearby ephemeral stream valley. Surface visibility was good to excellent, generally in excess of 80 percent. The site setting is erosive due to slope and a general lack of vegetative cover.

Observed cultural material consists of one possible hearth feature (Feature 1) and an estimated several hundred porcellanite flakes. Most of the debitage was observed in a concentration measuring about 10 meters across surrounding Feature 1. Feature 1 (1 m at 90°) consists of a cluster of reddened and possibly oxidized and exfoliating scoria stone measuring about 50 cm across. The largest stone is about 15 cm across with numerous smaller stones and fragments. If the cluster is a hearth, it appears to be totally deflated or nearly so.

24PR2271 - 36W1

Legal Location: T3S R45E, SENESW, SESWNESW Section 36

Elevation: 3389 feet (1033 m)

Cultural Period: Prehistoric

Site Type: lithic scatter, possible campsite

Description: The site, as observed, has an area of about 270 m east-west by 180 m north-south. The site is located on an eroded, rounded hill top in rolling grasslands. The knoll is part of a large ridge complex that divides the Threemile Creek drainage to the south from Otter Creek to the west. Cultural material observed includes a diffuse scatter of about 150 pieces of porcellanite debitage across the site and two clusters of micro-flakes in anthills. This site had the highest percentage of non-porcellanite materials observed during this project. Anthill No. 1 (6 m at 270 degrees from datum) has several micro and tertiary flakes including 2 agate, 3 Knife River Flint, 1 tan chert, 1 mottled tan and white chert, 2 vitreous porcellanite and 12 porcellanite. Anthill No. 2 (38 m at 287 degrees from datum) also has several micro and tertiary flakes including 1 red chert, 1 tan quartzite, and 23 porcellanite. Also found in this anthill was a fragment of a large (rifle) diameter percussion cap (collected). A stage I biface made of red quartzite was also

observed about 111 m east of the datum. Pin flag probes suggest that there is little soil in the area of the anthills, but formal testing is recommended.

Section 2 T4S R45E

24PR569

Legal Location: T4S R45E, SESWSESE Section 2

Elevation: 3160 feet (963 m)

Cultural Period: Prehistoric

Site Type: cairn, lithic scatter

Description: The site was originally recorded in 1979 (Gehr, et al.). The dated original site form lacks some of the locational information currently required, but adequately describes the site as it was observed during the current project. The site consists of a cairn and a sparse, surficial lithic scatter located on a narrow spine of a finger ridge on the south side of the Threemile Creek valley. The cairn is made of a single layer of 27 stones, ranging from 10 to 15 cm in diameter, clustered in a 1-m diameter area around a larger naturally occurring stone. The lithic scatter is about 35 m northwest to southeast by 10 m southwest to northeast. It occupies the top of the landform. Observed lithics include about 40 primary and secondary flakes, mostly of porcellanite. The 1979 site form indicates that tools, including “scrapers and spokeshaves,” were observed but these are not described in any further detail. No tools of any kind were observed on the site during the current project. No collections were made at the site. The site was tested in 1979 with a shovel probe. The test confirmed a lack of soil at the site.

24PR570/571

Legal Location: T4S R45E, SWNWSE, WSWNWSE, SENWNWSE, SESWNWNWSE
Section 2

Elevation: 3160 feet (963 m)

Cultural Period: Prehistoric

Site Type: lithic scatter

Description: The two adjacent sites, 24PR570 and 24PR571, were originally recorded in 1979 (Gehr, et al). The dated original site forms lacks locational information as currently required, and the site description does not match the landform or observed cultural material. The 2004 inventory resulted in observation of widely scattered primary lithic debitage that connects the two previously reported site areas. This updated form combines both old site numbers as a single site.

The site consists of a sprawling, but sparse, surficial lithic scatter located on a 100 m (30 m) high ridge on the north side of the Threemile Creek valley. The site dimensions, as revised, are 180 m north-south by 150 m east-west. A cairn reported in the original form for 24PR570 was not found. The cairn is reportedly made of a single layer of 26 stones, ranging from 10 to 15 cm in diameter, clustered in an elongated area 1 m northeast-southwest by 0.25 m northwest-southeast. The lithic scatter as observed consists of a

low-density, surficial scatter debitage on various adjacent lobes and finger ridge tops extending from the main ridge. Observed cultural material (in 2004) includes about 40 primary reduction flakes and spalls of porcellanite. In 1979 a 50 by 50 by 25-cm deep shovel test was conducted at the datum for site 24PR570. The test yielded no subsurface component or soil development. A 1979 test pit located at the datum for 24PR571 also yield no subsurface cultural component. Two formal tools, an end scraper and a distal fragment of a projectile point, were collected from the southern end of site 24PR570 in 1979. The 24PR570 site form reports an astounding “14 spokeshaves, 9 scrapers, 8 knives, 2 perforators and 6 gravers” observed at the site. Not a single formal tool was observed in the (combined) site area during the 2004 project. Neither site was recommended as significant in their original site forms.

24PR573

Legal Location: T4S R45E, NENWNWNW 2

Cultural Period: Prehistoric

Site Type: cairns, lithic scatter

Description: The site was originally recorded in 1979 (Gehr, et al.). The site consists of two cairns and a surficial lithic scatter located on a prominent, but narrow ridge top. The 1979 site form reports that numerous tools, including “scrapers, spoke shaves, knives, perforators and gravers” were found but these are not described in any further detail. A Late Prehistoric projectile point was collected in 1979. The two intact cairns and a scatter of porcellanite primary reduction debitage (but no tools of any kind) were observed on the site during the current project. No collections were made. The site form was updated with UTMs and a refined legal location. The site had been tested in 1979 with three shovel probes. One test yielded a flake from 30 cm below surface.

24PR575

Legal Location: T4S R45E, SESENWSWNE, NENESWSWNE Section 2

Elevation: 3140 feet (957 m)

Cultural Period: Prehistoric

Site Type: lithic scatter

Description: The site was originally recorded (Gehr, et al., 1979). The dated original site form lacks some of the locational information currently required, and the 1979 sketch map does not match the 1979 site form’s environmental setting description. The site description, and the terrain observed in 2004 place the site on the west side of a drainage, whereas the 1979 sketch map shows it on the east side. The 1979 site form does adequately describe the site’s content as it was observed during the current project. The site consists of a sparse, surficial lithic scatter. It is located on a sloping lobe along the west side of a north-to-south trending, unnamed, ephemeral drainage that empties into Threemile Creek about 500 meters south of the site. The lithic scatter is about 50 m in diameter and occupies the entire top of the landform. Observed lithics include about 20

primary and secondary flakes, mostly of porcellanite. The 1979 site form indicates that tools, including “2 scrapers, 6 spokeshaves and 2 knives,” were observed (one scraper was reported as collected) but these are not described in any further detail. No tools of any kind were observed during the current project and no collections were made at the site. The site was tested in 1979 with a shovel probe. The test confirmed a lack of soil at the site and found no subsurface cultural component.

24PR576/577

Legal Location: T4S R45E, SENENESE, NWNESENESE, NNWSENESE, NESWNESE
Section 2

Elevation: 3276 feet (999 m)

Cultural Period: Prehistoric

Site Type: lithic scatter

Description: The site was originally recorded (Gehr, et al., 1979) as sites 24PR576 and 24PR577. The dated original site forms lack the locational information currently required. Based upon current observations, the two sites were combined into a single, larger site. The site consists of a sparse, surficial lithic scatter. It is located on the spine of a 100 ft (30 m) high, east-to-west trending ridge top, about 350 m north of Threemile Creek. The lithic scatter is about 250 meters long (east-to-west) by a maximum width of about 50 meters. It occupies the entire top of the landform. The 1979 site form for 24PR576 reports 28 flakes, five spokeshaves, three scrapers, a knife and a hammer stone. The 1979 site form for 24PR577 reports 41 flakes and two spokeshaves. Lithics observed in 2004 include about 100 primary and secondary reduction flakes of porcellanite and three tools. The tools observed in 2004 include two scrapers (A1, A2) and a unifacially modified flake (A3). Both sites were tested in 1979 with a single 25 cm diameter by 25 cm deep shovel probe. The tests confirmed a lack of soil at the site and found no subsurface cultural component.

24PR2272 - 2B32

Legal Location: T4S R45E, NENWSESWSW Section 2

Elevation: 3060 feet (932 m)

Cultural Period: Prehistoric

Site Type: lithic scatter

Description: The 15 m diameter site area consists of a stage II biface fragment, six primary flakes of gray porcellanite and about 30 micro-flakes in an adjacent ant pile. The site area is found at the margin of a 4-meter high cut bank on the north side of the Threemile Creek drainage. The site is within a prairie-dog town so the surface visibility is high, notwithstanding, the site area appears to be extremely limited. Testing may reveal that subsurface material is present in a larger area.

24PR2273 - 2D24

Legal Location: T4S R45E, NESWSE, WNWSWSE, NNESWSWSE, NWNWSESWSE
Section 2

Elevation: 3060 feet to 3100 feet (932 m to 944 m)

Cultural Period: Prehistoric

Site Type: bison kill, campsite, processing area

Description: The site consists of a possible bison jump and two camp / processing areas on adjacent terraces of Threemile Creek, an intermittent tributary of Otter Creek. The 275-m north-to-south by 300-m east-to-west, irregularly shaped site spans several complex, adjacent landforms around the confluence of Threemile creek and an ephemeral tributary drainage.

For convenience, the site is divided into three areas. Area A is a gently sloping toe of a ridge on the north side of the Threemile drainage. The ridge is accessed by a two-track road, which follows the Threemile drainage. Here is found a roughly 6-m high vertical sandstone bluff overlooking the drainage channel. The site datum (a pile of sandstone slabs covering a wire pine flag with an aluminum identification tag) is located at the edge of the bluff. On the top of the bluff are found the partially disarticulated remains of what is believed to have been two alignments or “drive lines.” Specific dimensions are not possible because of the disarticulated nature of the features. Alignment 1 is roughly 33 m long, overall, and consists of several small cairns of apparently manuported scoria rocks. The cairns are spaced from 3 to 14 m apart and contain from one to four rocks ranging from 40 to 75 cm in maximum dimension. The alignment begins a couple meters north of the bluff edge and runs northward, terminating about 23 m south of the two-track road. Alignment 2 is roughly 45 m long and also consists of several small cairns of scoria rocks, similar in size to those previously described. The alignment begins a couple meters north of the bluff edge, about 25 m east of Alignment 1 and runs northeasterly, fading into a series of heavily used cattle trails that parallel the road. Near the bluff edge, and between the two alignments, is a cluster of scoria rocks that appears to be man-made. It may be the disarticulated remains of additional cairns or a stone circle. A few porcellanite primary flakes and a stage II porcellanite biface were found on the surface at Area A. This area is believed to have been a small bison jump.

Area B is on a narrow, finger-shaped remnant of the second terrace of Threemile Creek that has been cut away by both Threemile Creek and its unnamed tributary. Cultural material at Area B consists of deeply buried bison bone, dull reddish-orange oxidation stains that appear to be the remains of thermal features and a porcellanite flake. All are exposed in the face of a 4 to 5-m high, vertical cut bank that is about 30 m south of datum and the “jump.” The cultural material, representing at least two stratigraphically separated deposits, is exposed along the western 18 meters of this cut bank. The cultural material is described as it was observed starting from west-to-east along this cut bank face. At 1.5 m below the terrace surface (mbs) is an exposure of four bison vertebrae and two meters east of this is a bison limb element, also at 1.5 mbs. Six meters to the east is a 20 cm long by 5 cm thick oxidation stain at 2.1 mbs, below which is a porcellanite flake at 2.35 mbs. Five meters to the east at 1.0 mbs is a 1.4-m long by 5-cm thick oxidation

stain. Two meters east of this is a 40-cm long oxidation stain also at 1.0 mbs. About 70 cm to the east of this is a bison limb element at 1.5 mbs. A GPS point taken four meters south of the cut bank, adjacent to the cultural deposit is: 410990 Easting, 5040415 Northing.

Area C is a broad, flat second terrace on the south side of Threemile Creek. Here was found a few widely scattered porcellanite flakes and a hearth feature partially exposed on the terrace surface. The hearth feature consists of a 45-cm diameter patch of charcoal-stained soil containing burned and unburned bone fragments, fire-cracked sandstone and charcoal particles. The feature appears to be essentially intact. A GPS point taken at the feature is: 410850 Easting, 5040352 Northing. Dense vegetation obscured the terrace surface so other cultural material was not observed but may well be present. Subsurface testing would be required to determine the extent of cultural deposits in Area C.

Additional cultural material observed in the site area includes some widely scattered lithic debitage, a few early stage bifaces, and occasional bison bone exposed in the cut bank of the tributary drainage to the east of the “jump” area. The site has been heavily dissected by erosion of the two drainages and the overall integrity of the site is unknown, pending testing.

24PR2274 - 2D28

Legal Location: T4S R45E, NESESWSE Section 2
Elevation: 3090 feet (942 m)
Cultural Period: Prehistoric
Site Type: lithic scatter, possible eroded hearth

Description: The 70 m northwest-southeast by 60 m northeast-southwest site area consists of about 30 widely scattered porcellanite flakes and a cluster of fire-cracked rock. The site area is primarily confined to a narrow lobe-shaped terrace remnant, but includes a few flakes exposed along the margin of a second terrace to the southwest across an ephemeral drainage. It is this outlying area that probably has the greatest potential for subsurface deposits and would be subject to expansion pending the result of subsurface testing. The lobe portion of the site is probably mostly deflated. An exposure of micro-debitage is found in an anthill 29 m at 350 degrees from datum. A cluster of FCR is found 45 m at 295 degrees from datum. The terrace setting near a water source suggests the site may have been a camp occupation and not simply a lithic workshop or knapping station. The site landform is the 2nd terrace of Threemile Creek and is about 100 m north of the section's southern (fenced) line.

24PR2275 - G32

Legal Location: T4S R45E, NESWNESENW Section 2
Elevation: 3200 ft
Cultural Period: Prehistoric

Site Type: cairn?

Description: The site consists of a cluster of scoria stones that might be a cairn. The possible cairn is situated on a narrow, but nearly level saddle along a ridge summit. The ridge divides ephemeral tributaries of Threemile Creek, which lies about 600 meters to the south. Threemile Creek is an eastern tributary of Otter Creek and the Tongue River. Local vegetation includes sparse grasses, sage and forbs. Sediments appear to consist generally of sandy and gravelly loams. The site vicinity provides good views of the neighboring ephemeral streams and the valley of Threemile Creek. Surface visibility is excellent, and varied between about 75 and 80 percent. The site setting is stable to erosive.

The observed possible cultural manifestation includes only the alleged cairn; no artifacts were observed. The feature consists of a cluster of scoria stones, roughly ovoid in plan and oriented north northeast-south southwest. The cluster measures about 96 cm wide by 110 cm long and includes approximately seven stones, the largest measuring about 40 by 50 cm across. The six other stones measure between 10 by 15 cm and 25 by 25 cm. The stones are arranged in a single level, with the largest standing about 15-18 cm high. The largest stone may be in a natural position, with the others gathered together from the nearby vicinity.

Section 6 T4S R45E

24PR52

Legal Location: T4S R45E, SWSWSENE, NWNESE, NESWNESE Section 6

Elevation: 3260 feet (994 m)

Cultural Period: Prehistoric

Site Type: lithic scatter

Description: The sprawling site has a maximum dimension of 340 m north-south by 90 m east-west. It consists of a fairly diffuse scatter of lithic debitage and fire-cracked rock (FCR) exposed along the eroding west rim of a mesa-like ridge. A small playa (dry in 2004) is found at the southern end of the site, near an established two-track road. The area immediately surrounding the playa was recorded as site 24PR52 in 1975. The scanty site form lists 1 obsidian flake (collected), 1 worked chert flake (collected), and “flakes of porcellanite...surrounding the lake.” The present observations include about 50 flakes, one stage II biface fragment, scattered FCR and two clusters of FCR that are probably the remains of deflated and disarticulated hearths. The debitage is porcellanite and consists of primary secondary and tertiary flakes. The most visible portion of the site is along the eroding west edge of the rim, but there is a strong possibility that the site extends eastward into the grass-covered, flat top of the ridge. Surface visibility was poor on the ridge top and around the playa, due to vegetation. The site includes a large area with the potential for a buried deposit. Extensive testing will be required to evaluate. Gradiometer mapping (to look for thermal features and associated activity areas) is recommended as part of any evaluative effort.

24PR563

Legal Location: T4S R45E, ENESESE Section 6 (irregular section: SW corner used with template)

Cultural Period: Prehistoric

Site Type: stone rings, lithic scatter

Description: This site was recorded in October, 1979 by E Gehr, R. Rollefson, G. Rollefson, J. Finch, and G. Johnson. Eight stone rings and 35 artifacts were observed, including "...eight scrapers, two spokeshaves, five knives, and three choppers. There were also two cores, and fifteen flakes which were possibly used as tools." All of the observed artifacts were collected. One sterile shovel test was conducted (Murdo 2004, Bryant et al. 1980). This abridged version of the Montana Cultural Resources Information System form represents an update of the original recording but not a full re-recording.

When the site was revisited, the sketch map was found sufficiently detailed to locate all of the prehistoric features, all of which are very well-defined stone rings. However, a large "chimney" cairn was not recorded (possibly because it had not been built?). This feature was photographed and located with a GPS unit and all of the stone rings were photographed. An overview photograph of the site was also taken. A cluster of FCR was noted adjacent to Feature 8, a stone ring built on the edge of a blowout. No tools or flakes were noted. The original site datum was not found. However, a new datum was established in the approximate position reported on the original site form and located with a GPS unit.

The "chimney" cairn is consistent with the type commonly attributed to historic sheepherders, although others could certainly imitate the construction method, which simply involves careful stacking of tabular stones. The feature could very well be modern in age. The cairn is rather precariously built on a sandstone outcrop, stands approximately 85 cm tall and is 25-30 cm across at the base. There are 13 levels. Most of the stones, with the notable exception of the cap rock, are either very lightly lichenized or entirely lacking in lichens.

24PR564

Legal Location: T4S R45E, NNWNWSW Section 6 (irregular section: SW corner used with template)

Elevation:

Cultural Period: Prehistoric

Site Type: Stone rings, lithic scatter

Description: The site as observed in 2004 consists of four stone rings. These were fully described in the original site form. This addendum is prepared to include current photos, refined legal location and UTM points for the site. A new datum was constructed at the site. No other new information about the site's content is noted.

24PR565

Legal Location: T4S R45E, SWSWNW Section 6 (irregular section: SW corner used with template)

Elevation:

Cultural Period: Prehistoric

Site Type: lithic scatter

Description: : The site as observed in 2004 consists only of a few porcellanite flakes and a Knife River Flint end scraper (at the 2004 datum). This addendum was prepared to add a current photo, a refined legal location and UTM points for the site. A new datum was constructed at the site. No other new information about the site's content is noted.

24PR566

Legal Location: T4S R45E, SSESWNW Section 6 (irregular section: NW corner used with template)

Elevation:

Cultural Period: Prehistoric

Site Type: Stone rings, lithic scatter

Description: The site as observed in 2004 consists only of a few porcellanite flakes and a large corner-notched projectile point fragment (11m at 330 degrees from the 2004 datum). A careful examination of the site area found the landform as described in 1979, but could not positively identify the stone ring reported in the original site form. It is possible that the 11-stone ring has been disarticulated and is no longer recognizable. This addendum was prepared to add a current photo, a refined legal location and UTM points for the site. A new datum was constructed at the site. No other new information about the site's content is noted.

24PR2253 (Recorded by DNRC)

Legal Location: T4S R45E, NENENESE Section 6 (irregular section)

Elevation: 3100 ft/ 945 m

Cultural Period: Prehistoric

Site Type: lithic scatter

Description: As observed in the field, the site consists of a thin scattering of percussion flaked gray colored porcellanite on top of a narrow point of land. The soils in the site locale are thin and are situated on sandstone bedrock. The soils become deeper as one moves south from the site locale to the broad and nearly level ridge top. Four size grade 1, secondary reduction stage, gray porcellanite flakes (all of which exhibit flat platforms); one piece of size grade 1, secondary reduction stage, shatter of gray porcellanite; and a

small stage II gray porcellanite biface were observed on the surface of the site. Kennecott Energy originally proposed to drill a single, 4 inch diameter exploratory hole within the defined boundaries of the site. Although, it is this author's opinion that the drill activities would have had No Effect on the site-- even if the site were to be evaluated and determined to be a Historic Property-- a Kennecott representative moved the proposed drill locale so as to be situated ca. 5 m outside of the arbitrarily defined site boundary. The site appears to be largely intact, but depth of cultural materials, and contextual integrity of cultural materials, in the site is unknown. The site is typical for the area and probably reflects a limited porcellanite reduction site where locally available, and moderately abundant, porcellanite pieces were collected and minimally reduced.

A datum was established in the site for mapping purposes and so that future researchers could accurately identify the site locale. The datum consists of an aluminum tag with the date, the site field number, and the letters DNRC. The aluminum tag is wired to a wire pin flag and both the tag and pin flag are covered over with a small heap of locally available sandstone slabs forming a cairn at the west margin of the site.

24PR2254 (Recorded by DNRC)

Legal Location: T4S R45E, NWSWSENE Section 6 (irregular section)

Elevation: 3100 ft/ 945 m

Cultural Period: Prehistoric

Site Type: lithic scatter

Description: As observed in the field, the site consists of a thin scattering of gray and maroon colored percussion flaked porcellanite on top of a narrow point of land. The soils in the site locale are thin and are situated on sandstone bedrock. The soils become deeper as one moves southeasterly from the site locale to the broadening portion of the nearly level ridge top. Three maroon colored size grade 1, secondary reduction stage, porcellanite flakes (all of which exhibit flat platforms); Two gray colored size grade 1, secondary reduction stage, porcellanite flakes (all of which exhibit flat platforms); one piece of size grade 1, secondary reduction stage, shatter of gray porcellanite; and a small flake core of gray porcellanite were observed on the surface of the site. Kennecott Energy originally proposed to drill a single, 4 inch diameter exploratory hole within the defined boundaries of the site. Although, it is this author's opinion that the drill activities would have had No Effect on the site-- even if the site were to be evaluated and determined to be a Historic Property-- a Kennecott representative moved the proposed drill locale so as to be situated ca. 20 m outside of the arbitrarily defined site boundary. The site appears to be largely intact, but depth of cultural materials, and contextual integrity of cultural materials, in the site is unknown. The site is typical for the area and probably reflects a limited porcellanite reduction site where locally available, and moderately abundant, porcellanite pieces were collected and minimally reduced.

A datum was established in the site for mapping purposes and so that future researchers could accurately identify the site locale. The datum consists of an aluminum tag with the date, the site field number, and the letters DNRC. The aluminum tag is wired to a wire pin flag and both the tag and pin flag are covered over with a small heap of locally

available sandstone slabs forming a cairn on a sandstone outcrop at the southwest margin of the site.

24PR2276 - 6B18

Legal Location: T4S R45E, CNWNW Section 6

Elevation: 3330 feet (1014 m)

Cultural Period: Prehistoric

Site Type: lithic scatter

Description: The site has an area of about 40 m northwest-southeast by 15 m northeast-southwest. The site is located on the west side of a low, northwest trending finger ridge in a dissected uplands setting. It consists of a fairly dense scatter of lithic debitage within this area. Observed were about 50 flakes of porcellanite, including primary, secondary and tertiary reduction flakes. There moderate potential for soil accumulation and colluvial deposition. No tools or features were observed.

24PR2277 - 6B19

Legal Location: T4S R45E, NWSWNENW Section 6 (irregular section: NW corner used with template)

Elevation: 3320 feet (1012 m)

Cultural Period: Prehistoric

Site Type: stone ring, lithic scatter

Description: The site has an area of about 40 m north-south by 20 m east-west. The site consists of a single stone ring feature (5 m at 351 degrees from the datum) surrounded by a sparse scatter of 12 pieces of porcellanite debitage and a porcellanite core. The site is located on the end of a low, northeast trending finger ridge. The ring feature is 3.5 m in diameter with a possible opening to the east. It is made from 27 relatively large scoria rocks. The rocks in the feature appear completely exposed on a deflated surface. There is no evidence of soil accumulation and the site appears to be deflated.

24PR2278 - 6D14

Legal Location: T4S R45E, NESWNWSW Section 6 (irregular section: SW corner used with template)

Elevation: 3280 feet (1000 m)

Cultural Period: Prehistoric

Site Type: campsite (buried, possibly stratified)

Description: The site has an area of about 45 m east-west by a maximum 10 m north-south. The site is located at the head of a newly incised arroyo in a grassland basin setting, on the south side of the arroyo. The site is exposed in a 3-m high, nearly vertical

cut bank. There appears to be multiple (at least eight) strata of ash or charcoal stained soil lenses from 30 to 260 cm below surface (cmbs). Indications of possible cultural association were observed at three of the strata. At 40 cmbs, a fractured bison bone is exposed within a 5 cm-thick dark soil stratum. At 170 cmbs, a fractured bison long bone is exposed in a similar, charcoal stained stratum. At 227 cmbs, two oxidation stains and two pieces of sandstone fire-cracked rock are found in a 3-cm thick dark soil stratum. The oxidation stains are 4 meters apart in what appears to be the same soil stratum. They are pinkish in color, and each are about 3-cm thick by 50 cm long, slightly dish-shaped in profile. The FCR is found between these oxidation stains. No debitage or tools were observed. Extensive (because of the depth involved) testing would be required in order to ascertain the content of the various strata, as well as the horizontal extent of the deposit. Based upon the landform, a maximum potential width of the site is about 10 m. The site length was based upon the exposed strata in the cut bank.

24PR2279 - 6D15

Legal Location: T4S R45E, SWSESWNWSW Section 6 (irregular section: SW corner used with template)

Elevation: 3200 feet (975 m)

Cultural Period: Prehistoric

Site Type: campsite, hearths

Description: The site has an area of about 40 m east-west by 20 m north-south. The site is located at the edge of a 6-m deep arroyo in a grassland basin setting. It is on the north side of the arroyo, about 20 meters south of a two-track road. The site consists of two partially exposed slab-lined hearths, a flake, a possible metate fragment. The site area suggests a strong likelihood of intact, buried cultural deposits. Subsurface testing, including a gradiometer survey, would be required to define the horizontal extent of the site.

Feature 1 (6 m at 116 degrees from datum) is probably 60 percent eroded out of the margin of the terrace. It is located 45 cm below current ground surface and consists of a massive, slab-lined hearth containing 27 exposed sandstone slabs ranging in size from 10 to 30 cm in diameter. Some of the slabs have slumped as much as five meters into the arroyo. There is a prominent charcoal, ash and oxidation stain around the feature. The intact portion of the feature is about 30 cm thick and 60 cm long, and appears to be generally bowl-shaped. A secondary reduction flake of gray porcellanite is found 2 m west of this feature. Feature 2 (7 m at 288 degrees from the datum) is a similar feature, 50 cm in diameter, but seems to be more intact. Oxidation stained soil and charcoal are present. Ten oxidized sandstone slabs of similar size are exposed, or partially exposed in the sod. A single large sandstone slab that seems to have been smoothed though some utilization, lies one meter west of the datum. It may be a metate. A bison mandible is eroding from the opposite (south) side of the arroyo 40 m at 240 degrees from the site datum).

24PR2280 - G18

Legal Location: T4S R45E, SNENWNENW Section 6

Elevation: 3200 ft

Cultural Period: Prehistoric

Site Type: stone rings

Description: The site consists of the remains of possibly four stone arcs and two flakes, and encompasses an area of about 10 by 35 meters. The site is situated on the summit of a broad, gently sloping finger ridge and is bordered on the north by stands of burnt and dead ponderosa pines. The ridge divides unnamed ephemeral tributaries of Otter Creek, a perennial tributary of the Tongue River. The nearest ephemeral tributary lies about 360 m to the northeast. Otter Creek is about 2.7 km to the east. Onsite vegetation consists of tall, very dense grass. Nearby are the burnt stands of ponderosa pine noted above; in addition, there are a few unburned pines and junipers to the northwest. The area may have been used as a hayfield in the past. Based on pin flag probing, soil consists of at least 20-25 cm of sand loam. Surface visibility was very poor, less than five percent. The view from the site itself is mostly limited to the ridge top, although an area closer to the edge of the ridge top affords quite extensive views of the country to the north. The depositional/erosional situation appears currently stable on account of the thick vegetative cover.

The stone arcs are poorly defined, probably disturbed, partially obscured by grass cover, and are clustered in a small area. Feature 1 (2 m at 323°) consists of eight scoria stones arranged in a rough semi-circular outline, open to the west, and has an interior diameter (ID) of two meters. Feature 2 (4 m at 337°) is virtually identical, being composed of eight stones with an ID of two meters, and is arranged in a rough semi-circular outline. However, the arc is open to the east. Feature 1 and 2 are so poorly defined and so near each other that they could very well represent one feature. Feature 3 (6 m at 19°) consists of seven scoria stones arranged in a vague semi-circular arrangement open to the north. Feature 4 (7 m at 344°) is constructed of five stones, has an ID of 2.5 m, and is open to the southeast. The rocks of all of the features appear shallowly buried.

In addition to the stone features, two porcellanite secondary flakes were observed. One of these is within or very near Feature 3, while the other lies about 30 meters to the northwest.

24PR2281 - G20

Legal Location: T4S R45E, SWSWNWSWSE Section 6 (Irregular section: template aligned on SE corner)

Elevation: 3240 ft

Cultural Period: Prehistoric

Site Type: lithic scatter

Description: The site is a lithic scatter occupying an area of about 10 by 20 meters. The site is situated on a series of severely eroded bench lobes adjacent to an ephemeral stream

and south of a low finger ridge. The stream is part of a multi-branched, unnamed ephemeral tributary of Otter Creek. Otter Creek is a perennial tributary of the Tongue River. Otter Creek is about 3.5 km to the east. Soil consists of sand and sand loam with hardpan deposits. Vegetation consists of very sparse grasses, silver sage, sweet sage, yucca, and juniper. There are also stands of ponderosa pines in the vicinity. Surface visibility was excellent, in excess of 95 percent. The view from the site is somewhat restricted by higher terrain and vegetation, although the nearby low ridge offers good views of nearby stream valleys; highlands to the west can also be plainly seen.

Observed cultural materials include one probable Late Archaic corner notched projectile point (A1), one tesho (flake knife- A2), one quartzite flake, and two porcellanite flakes. Nothing was collected, but both tools were photographed. A1 (18 m at 112°) has a very heavy patina and is difficult to identify the material. The tip is missing as well as portions of the base. A2 (1.25 m at 144°) is made of a gray-banded porcellanite.

24PR2282 - 6W3

Legal Location: T4S R45E, SESWNWSE Section 6 (irregular section: SW corner used with template)

Elevation: 3240 feet (988 m)

Cultural Period: Prehistoric

Site Type: campsite

Description: The site has an area 15 m in diameter, arbitrarily designated around a single hearth feature. It is located on a nearly level, shelf-like landform on the south side of a 20 m deep ephemeral drainage valley that drains eastward to Otter Creek. The feature may be prehistoric, historic or modern, but is presumed to be historic. The rectangular, sandstone slab-lined hearth is 1.3 m east-west by 1.1 m north-south. The feature shape is somewhat reminiscent of prehistoric slab-lined hearths, but the exposure of the rocks suggests a more recent affiliation. The site area is forested with ponderosa pine. Charcoal was observed on the ground surface beneath the pine duff. The site rests upon a sandstone shelf with shallow soil accumulation. The feature is 25 m south of a two-track road and 100 m of an unnamed, ephemeral drainage channel.

Section 8, T4S 45E

24PR28

Legal Location: T4S R45E, SWSWSWSW, Section 8

Elevation: 3300 feet (957 m)

Cultural Period: Prehistoric

Site Type: lithic scatter

Description: The site consists of a small lithic scatter. The original site form does not include a sketch map, USGS map or site photograph. This update includes a current

photograph, a revised site map, a refined legal location, and UTM points. A new datum was also established at the site in 2004. As originally recorded (Carlson, Mills and Davis 1975), the site was described as “some dark red porcellanite and a core of red chert [and was totally collected].” No further work was recommended in 1975. The 2004 observations yielded only three gray porcellanite flakes and a single red porcellanite flake. The site as observed in 2004 is little more than an isolate.

24PR599

Legal Location: T4S R45E, NSESESE Section 8 and NWSWSWSW Section 9

Elevation:

Cultural Period: Prehistoric

Site Type: stone rings, lithics

Description: The original site form (Gehr et al. 1979) describes two stone rings and a low density lithic scatter that included “a knife, four spoke shaves, six scrapers, one graver, and 20 modified flakes.” Ring one is described as 4.5-m in diameter consisting of 20 stones 15 to 20 cm in diameter and “half buried.” Ring two is described as 1.75-m in diameter consisting of eight stones 15 to 20 cm in diameter “buried to a depth of 2.5 cm.” The 2004 observations found the smaller ring as described, and found a “V” shaped alignment of rock that is aligned on the section line and may be a historic/modern survey marker. The large ring as reported by Gehr could not be relocated. Artifacts observed in 2004 include two porcellanite flakes and a large stage I biface of gray porcellanite located at E406665 N5038661. None of the tool assemblage described in the 1979 site form was found.

24PR600

Legal Location: T4S R45E, SSNENESE, SENESE Section 8

Elevation: 3261 feet (994 m)

Cultural Period: Prehistoric

Site Type: lithic scatter

Description: The site consists of a sprawling, extremely sparse lithic scatter located on a rolling hilltop in a grassland / dissected uplands setting. The 165 m by 80 m site was originally recorded as a smaller, but undefined area by the BLM (Bryant et al. 1980). Current observations led to an expansion of the site area, a refinement of the legal description, and a new sketch map and photographs. A new datum was established. Cultural material observed during the current project include one cairn (apparently Feature 1 from Gehr (1979), about 20 widely scattered porcellanite flakes, mostly primary and decortication spalls, one chert primary flake and a large (9.5 by 8 by 2.5 cm thick) primary flake of red quartzite (A1). Gehr (1979) reported an abundance of flake tools, none of which were observed during the current review. Also, a second cairn reported in 1979 could not be verified. The site testing in 1979 verifies that the site is capped with scoria and has little soil.

24PR678

Legal Location: T4S 45E, NWNESWNE, ENENWSWNE, SWSEWNNE Section 8,

Elevation: 3160-3240 ft

Cultural Period: Prehistoric

Site Type: stone rings

Description: This site was originally recorded in 1979 by E. Gehr, J. Finch, G. Johnson, and L. Conton, apparently as part of a Class III inventory. The site form obtained from Archaeology Records at the University of Montana does not include a sketch map. In 1979, the site was reported to consist of "...forty-five lithic artifacts and a stone circle" along with "...knives, one scraper, one graver". One shovel test measuring 50 cm diameter by 25 cm deep was conducted. Based on this test, the site was judged to be deflated, although the integrity of the site was judged as good. Subsequently, the site was determined NRHP eligible by the Keeper of the NRHP (Bryant et al. 1980; Murdo 2004).

During the current investigation, the site was found to consist of the remains of as many as four stone rings along with a lithic scatter, and encompasses an area of about 105 by 155 meters. The site is situated on the summit and north-projecting lobe of a ridge that divides ephemeral tributaries of Otter Creek, a perennial tributary of the Tongue River. The ridge divides unnamed ephemeral tributaries of Otter Creek, a perennial tributary of the Tongue River. The nearest ephemeral tributary lies about 400 m to the southeast. Otter Creek is about two kilometers to the east. Onsite vegetation consists of sparse bunch grasses and sage with a nearby juniper bush. Soil appears to consist of sandy and gravelly loam. Surface visibility was fair to good, averaging around 60%. The view from the site is extensive and panoramic. The depositional/erosional situation appears currently stable, although the site is probably deflated.

The stone features are poorly defined, shallowly buried and probably disturbed. Feature 1 (46 m at 117°) measures about four meters in interior diameter (ID) and is constructed of roughly 38 scoria stones. The circle may be "complete" but the rocks appear scattered. Feature 2 (102 m at 46°) measures about four meters in ID and is constructed of about 17 scoria stones. The rocks are scattered and it appears to be roughly one-third complete. Feature 3 (44 m at 55°) is square in outline and measures about 2.5 m north-south by four meters east-west. Its outline makes it almost seem historic, although it is poorly defined and probably disturbed. Feature 4 (25 m at 250°) is manifested as an alignment of four stones measuring about 2.5 m long. One of the stones is large and probably in its natural position- the others may be as well, and it is questionable whether the alignment is the result of human activity. See also the attached Ring Attribute Form.

In addition to the stone features, an estimated several hundred gray porcellanite primary, secondary and shatter flakes were observed. No tools or materials other than gray porcellanite were observed, and nothing was collected.

Despite the earlier determination by the Keeper, the site needs to be shovel tested and evaluated for the NRHP if it is to be impacted. The features could also be mapped in

detail, although they are so poorly defined that this would probably not be productive of any important information. In view of the site's poor integrity, it would probably be difficult to continue to justify the earlier determination.

24PR679

Legal Location: T4S 45E, WNWNWNWSE Section 8,
Cultural Period: Prehistoric
Site Type: lithic scatter

Description: This site was recorded in October, 1979 by E Gehr, L. Conton, J. Finch and G. Johnson. Besides porcellanite flakes, "...eight scrapers, ten spokeshaves, a graver, two knives, and a single historic artifact of lead/pewter" was observed. All the observed artifacts were collected. One sterile shovel test was conducted (Murdo 2004, Bryant et al. 1980). This abridged version of the Montana Cultural Resources Information System form represents an update of the original recording but not a full re-recording.

When the site was revisited, the sketch map seemed to match the topography rather well. As might be expected after a site has been fully collected, only porcellanite debitage was observed (between 10 and 20 flakes of all stages and 5-10 core fragments). The old datum was not found. However, a new one was established in the approximate reported location of the original datum and located with a GPS unit. The site was also photographed (roll G3, frame 23a).

24PR680

Legal Location: T4S 45E, SWNWNWSW, NWSWNWSW 8 (irregular section- template aligned on SW corner)
Cultural Period: Prehistoric
Site Type: lithic scatter

Description: This site was recorded in October, 1979 by E Gehr, J. Finch and G. Johnson. Observed artifacts included "...three knives, three scrapers, one spokeshave, and four choppers. The balance are modified flakes and casually utilized flakes." Nothing was collected. Two sterile shovel tests were conducted (Murdo 2004, Bryant et al. 1980). This abridged version of the Montana Cultural Resources Information System form represents an update of the original recording but not a full re-recording.

When the site was revisited, the sketch map was sufficiently detailed to relocate the general boundaries of the site. The old datum was not found. However, a new one was established in the approximate reported location of the original datum and located with a GPS unit. The site was also photographed (roll G3, frame 15a). Two Stage II porcellanite bifaces and several tens of porcellanite primary, secondary and shatter flakes were observed. The two bifaces are situated about four meters apart (locations- 65 m at 220° and 69 m at 221°).

24PR682

Legal Location: T4S R45E SWSWSESE Section 8

Elevation:

Cultural Period: Prehistoric

Site Type: stone cairn

Description: The site consists of a large stone cairn. The site was fully recorded (Bryant et al. 1980) who describes the feature as a large, ellipsoidal cairn consisting of a pile 2.5 m by 2 m by 35 cm high. The possibility that it is associated with a burial was raised, but cannot be confirmed. The 2004 observations were consistent with the original description. A current photo, refined legal description, UTM coordinates and a new datum were added.

24PR705

Legal Location: T4S R45E WSWSWSW Section 8

Elevation:

Cultural Period: Prehistoric

Site Type: stone cairns, alignment, lithics

Description: The site consists of six stone cairns that appear to be aligned, in addition to a sparse scatter of debitage. The 2004 observations are that five of these are clearly in linear alignment. No substantial changes to the site were noted, except that recent vehicle traffic over the site is evident. The site is essentially surficial with no soil development. The original site form (Bryant et al. 1980) fully describes the individual features, which are typically about 0.5 to 1 m in diameter and contain from five to eleven stones that are 15-20 cm in diameter. Cairns are from 3-8 meters apart and the overall length of the aligned cairns is about 25 m. This update adds a new datum, UTM location for the datum, refined legal description, a revised site map and current photographs. One shovel test conducted in 1979 verifies that there is little soil in the vicinity of the stone features.

24PR676 / 24PR677 (Recorded by DNRC)

Legal Location: The central portion of the NE-NE1/4 of Section 8, T4S R45E and the W1/2-W1/2-NW-NW-NW1/4 of Section 9, T4S R45E

Elevation: 3060 ft (933 m)

Cultural Period: Prehistoric

Site Type: lithic scatter

Description: As observed in the field, the site consists of a thin scattering of gray, black and maroon colored percussion flaked porcellanite on the top and sides of a NE sloping, narrow ridge. The soils in the site locale are thin and gravelly and are situated on scoria

bedrock. Cultural materials observed in the site include hundreds of primary and secondary reduction stage porcellanite flakes and shatter (mostly size grade 1 and 2) and a very limited number of flake cores and stage I/stage II bifaces. Kennecott Energy is proposing to drill two, 4 inch diameter exploratory holes within the defined boundaries of the site. It is this author's opinion that the drill activities will have had No Effect on the site-- even if the site were to be evaluated and determined to be a Historic Property. The site appears to be largely intact, but depth of cultural materials, and contextual integrity of cultural materials, in the site is unknown. The site is typical for the area and probably reflects a limited porcellanite collection and subsequent reduction site where locally available, and moderately abundant, porcellanite pieces were collected and minimally reduced.

The site was originally defined as two separate sites, but because the ridge top contains a continuous scatter of chipped stone materials with no obvious breaks, site 24PR676 and 24PR677 are being combined for purposes of this update. A datum was established in the site for mapping purposes and so that future researchers could accurately identify the site locale. The datum consists of an aluminum tag with the date, the site field number, and the letters DNRC. The aluminum tag is wired to a wire pin flag and both the tag and pin flag are covered over with a small heap of locally available scoria cobbles forming a cairn on the highest point in the site. The original site form for 24PR676 indicated that a cairn was located, presumably, at the same location the site datum is constructed. Upon inspection, however, only a concentration of naturally occurring scoria cobbles and small boulders were identified with our inspection. Other similar outcroppings of scoria occur throughout the site and adjacent areas.

24PR2283 - 8D29

Legal Location: T4S R45E, CNENWNESE Section 8 (irregular section: NW corner used with template)

Elevation: 3140 feet (957 m)

Cultural Period: Prehistoric

Site Type: cairn alignment

Description: The site consists of an apparent alignment of eight small cairns occupying an area roughly 45 m long by 10 m wide. The site is located on a narrow finger ridge that projects northward from a ridge complex on the southeast side of an unnamed ephemeral tributary of Otter Creek. The site is about 15 m above the drainage channel.

The cairns that make up the 45-m long alignment are made of locally available scoria rocks 30 to 50 cm in diameter. From south to north, the cairns consist of: 5 rocks, 6 rocks, 3 rocks, 2 rocks, 3 rocks, 3 rocks, 3 rocks, and 2 rocks. The cairns are spaced from 3 to 8 meters apart. The site area is eroded with exposed scoria and weathered shale and very little, if any soil development.

24PR2284 - 8D31

Legal Location: T4S R45E, SESESENE Section 8 (irregular section: NE corner used with template)

Elevation:

Cultural Period: Prehistoric

Site Type: cairn alignment

Description: The site consists of an apparent alignment of five small cairns occupying an area roughly 40 m long by 6 m wide. The site is located on a narrow finger ridge that projects southeastward from a ridge complex on the north side of an unnamed ephemeral tributary of Otter Creek. The site is about 15 m above the drainage channel.

The cairns that make up the 40-m long alignment are made of locally available scoria rocks 30 to 50 cm in diameter. From south to north, the cairns consist of: 7 rocks, 8 rocks, 2 rocks, 2 rocks, and 1 rock. The cairns are spaced from 3 to 9 meters apart. The southernmost cairn is nearly one meter in diameter and is by far the most prominent. The site area has soil development.

24PR2285 - G36

Legal Location: T4S R45E, SENESENWSW, Section 8

Elevation: 3260 ft

Cultural Period: Prehistoric

Site Type: cairn? and flake

Description: The site consists of a possible cairn and a single porcellanite flake. The site is situated on an eroded, narrow ridge summit. The ridge divides ephemeral tributaries of Otter Creek, which lies about 2.75 km to the east. Otter Creek is a perennial tributary of the Tongue River. Local vegetation includes very sparse bunch grasses, sage and prickly pear cactus. Sediments appear to consist primarily of scoria gravel with virtually no soil. The site vicinity provides excellent views of the neighboring drainages. Surface visibility was excellent, in excess of 95 percent.

The cairn appears to consist of a stack of tabular pieces of sandstone that have partially collapsed. It is possible that it simply weathered in this fashion, creating the illusion of "stacking"; however, a porcellanite flake was found on top of one of the stones. The "cairn" consists of at least nine stones, the largest measuring about 8-10 cm thick by 36 by 56 cm across with another measuring about five centimeters thick by 40 by 45 cm across. A possible collapsed stone lies a short distance to the southwest. The partially collapsed "stack" measures roughly 70 cm wide by 170 cm long and is oriented at about 300 degrees.

24PR2286 - G37

Legal Location: T4S R45E, NNSWNESW, SSENWNESW Section 8

Elevation: 3220 ft
Cultural Period: Prehistoric
Site Type: lithic scatter

Description: The site is a lithic scatter occupying an area measuring about 195 m east-west by a maximum of 35 m north-south. The site is situated on a ridge summit that divides ephemeral tributaries of Otter Creek, a perennial tributary of the Tongue River. Cultural material was found on a lobe, knoll and saddle along the summit. Soil appears to consist of loamy sand with copious amounts of clinker gravel, and is probably very shallow. The site is probably completely deflated. Vegetation consists of very sparse bunch grasses, prickly pear cactus and sage. The site vicinity affords an extensive and panoramic view. Surface visibility averaged in excess of 95%.

Observed cultural material consists solely of porcellanite artifacts, and includes an estimated several hundred flakes, three biface fragments, and five spent cores. Nothing was collected.

Section 10, T4S 45E

24PR2287 - 10B33

Legal Location: T4S R45E, NNWNENE Section 10
Elevation: 3060 ft
Cultural Period: Prehistoric
Site Type: lithic scatter

Description: The site is a small lithic scatter measuring about 50 m north-south by 60 m east-west. The site is situated on the third terrace south of Threemile Creek, a tributary of Otter Creek and the Tongue River. Threemile Creek is about 100 m to the north. Onsite vegetation consists of prairie grasses. Sediments appear to consist generally of pale brown clay loam. Surface visibility was about 60%. The site setting is stable to mildly erosive. The site vicinity affords good views of the valley of Threemile Creek and surrounding uplands.

Observed cultural material consists of 50+ porcellanite flakes, one porcellanite core, and one chert scraper.

24PR2288 - 10D7

Legal Location: T4S R45E, NESESE Section 10
Elevation: 3140 feet (957 m)
Cultural Period: Prehistoric
Site Type: lithic scatter

Description: The site consists of sprawling but diffuse lithic scatter about 110 m in diameter. The site lies at the north end of a 24-m high, south-to-north trending ridge overlooking a large, unnamed, ephemeral tributary of Otter Creek. Lithic debitage is found on the northern tip of the ridge and on a grass and sage covered terrace just above the drainage. Cultural material observed includes a stage II biface made of silicified wood, and about 25 flakes and two cores made of porcellanite. The ridge top is erosive and has little soil, but the terrace has some potential for soil development and colluvial sediment deposition. It is possible that a seep or seasonal surface water was once present in the drainage and if so there may have been a campsite on the terrace. Therefore, testing is recommended on the terrace portion of the site.

24PR2289 - 10W5

Legal Location: T4S R45E, NENWSESW Section 10

Elevation: 3106 feet (947 m)

Cultural Period: Prehistoric

Site Type: homestead

Description: The 65 m north-south by 60 m east-west site consists of the scant remains of a homestead-era occupation located on the north side of an unnamed, ephemeral tributary of Otter Creek. Cultural material at the site includes a dump containing ca. 1920s-1950s domestic trash, the remains of a wooden windmill lattice tower (serving as datum) and a single building depression. Feature 1 (35 m at 305 degrees from the windmill tower) is a building depression or dugout 10 ft by 10 ft by 4 ft deep. Between these, is a small arroyo filled with trash consistent with a ca. 1930s-1950s occupation. The dump includes 15-20 ten ounce soda bottles (nine different brands, including, Sunrise, Coke, Squirt, 7-up, Upper 10, Cliquot Club, Whistle and Vess). Other items include: a 1/2 gallon jug of Dad's Root Beer, 3 car batteries, a 55 gallon drum, a white enamel kettle, sickle bar mower parts, a green glass bottle (cork top); sanitary type food cans, 2 galvanized kerosene cans, an oak claw foot furniture leg, a shower head, church key beer cans, a 1940s Plymouth hubcap, kerosene lamp, white enamel bucket, animal vaccine bottles, and a 1940s washing machine chassis. Records of the General Land Office (GLO) held by the BLM indicate that this property was patented by John C. Anderson on November 11, 1926 (Serial no. 989147).

Section 12, T4S 45E

24PR54

Legal Location: T4S R45E, SNENESE, NESENESE Section 12

Elevation: 3300-3320 ft

Cultural Period: Prehistoric

Site Type: lithic scatter

Description: This site was probably originally recorded in 1975 by Carl Davis and Mavis Loscheider, apparently under the auspices of the University of Montana. The site was described as an insignificant lithic scatter containing flakes and cores of red and gray porcellanite.

The site is a lithic scatter occupying an irregular area measuring between roughly five and 25 meters wide by 160 meters long. The site is situated on a western lobe of a broad ridge summit. The ridge divides Shorty Creek from an ephemeral tributary of Threemile Creek. Threemile Creek is an intermittent tributary of Otter Creek, which lies about 800 meters to the north. Shorty Creek, an ephemeral tributary of Threemile Creek, is about 600 m to the east. Soil appears to consist of sand loam. Vegetation consists of very sparse grasses, sage, yucca, and forbs, with stands of ponderosa pine below the margin of the ridge summit. Surface visibility was good, in excess of 50 percent. The view from the site is restricted to the east by slightly higher terrain and to the west by trees; however, limited but extensive views are afforded of the country to the east. The site's depositional-erosional situation is stable to moderately erosive.

Observed cultural materials include one modified porcellanite primary flake (A1- 0.4 m at 198°) and approximately 10-15 porcellanite primary, secondary and shatter flakes.

24PR2290 - 12D21

Legal Location: T4S R45E, C SESW Section 12 (irregular section, SE corner used with template)

Elevation: 3223 ft (982 m)

Cultural Period: Prehistoric

Site Type: lithic scatter, possible campsite

Description: The 50 m north-south by 60 m east-west site occupies a lobe-shaped second terrace along the west side of an unnamed tributary of Threemile Creek. The tributary coulee has cottonwoods, suggesting at least seasonal water is typically available. A windmill (for reference) stands 119 m at 10 degrees from the site datum. The site consists of a moderately dense scatter of debitage, primarily exposed along the eroding margins of the landform. Dense grass and sage cover precluded a close surface examination. It is likely that there is significant soil development on the site. Artifacts observed include about 150 flakes, a distal fragment of a large projectile point preform (A1 25 m at 28 degrees), a large knife (A2 3 m at 276 degrees) and a medial fragment of a late stage biface or preform (A3 19 m at 8 degrees). All observed artifacts are made of porcellanite. The beveled edge, asymmetrical, bifacial knife is diagnostic artifact of the Late Plains Archaic period, which is consistent with the size of the projectile preform fragments observed. Testing, including a gradiometer survey is recommended to assess the potential for buried thermal features at this site.

24PR2291 - 12D22

Legal Location: T4S R45E , NENENESW Section 12 (irregular section, NW corner used with template)

Elevation: 3234 ft (986 m)

Cultural Period: Prehistoric

Site Type: campsite

Description: The 25m north-south by 25 m east-west site area lies on a shelf-like projection on the east facing slope of a larger south-to-north trending ridge complex. It is about 24 meters above a major, but ephemeral tributary of Threemile Creek. A large stock reservoir (dry in 2004) lies in this tributary a couple hundred meters to the northeast. The site area is located on weathering shale and sandstone bedrock with an exposed coal seam nearby. On site vegetation is very sparse and little soil is present, based upon pin flag probes. The cultural material consists of a deflated hearth, a large corner-notched projectile point and about 20 porcellanite flakes. The hearth (Feature 1, 1.5 m south of datum) consists of an 80 cm diameter cluster of oxidized and badly spalled sandstone FCR (under 5 cm diameter) overlying a charcoal and oxidation stain. One larger sandstone slabs (about 15 cm in diameter) are also present (see photo). The broken projectile point is made of Knife River Flint and has a heavy patina. Its notch width is 112.5 mm, its maximum width is 22.5 mm and its thickness is 5 mm. Its size, shape and random flaking pattern suggest a Late Archaic Period affiliation. The site area has almost no potential for subsurface cultural deposits because of the erosion. The hearth might have adequate charcoal for an AMS radiocarbon date, but lacks contextual integrity and an associated intact activity area, so would have little research value.

24PR2292- 12D23

Legal Location: T4S R45E, SWSESWSWNE Section 12 (irregular section, NW corner used with template)

Elevation: 3154 ft (961 m)

Cultural Period: Prehistoric

Site Type: campsite

Description: The 45 m southwest-to-northeast by 25 m northwest-to-southeast site occupies a lobe-shaped terrace on the west side of a major, unnamed ephemeral tributary of Threemile Creek. A 36-m high ridge rises steeply to the west of the site area, which is tentatively based upon the shape of the landform it occupies. Cultural material at the site consists of an eroding hearth and seven primary flakes of porcellanite. All cultural material is exposed at the terrace margin, suggesting a possible buried cultural component in the interior of the landform. The hearth (F1, located 2 m east of the datum) consists of a 50-cm diameter cluster of seven pieces of oxidized sandstone slabs and two large primary flakes of gray porcellanite. The feature may be totally deflated, but the landform appears to be stable with significant soil development. A gradiometer survey is recommended to assess the potential for buried thermal features at this site.

24PR2293 - Leroy C. Lewis Homestead

Legal Location: T4S R45E, NENWNE Section 12

Elevation: 3120 ft

Cultural Period: Prehistoric

Site Type: homestead remains

Description: The site consists of the remains of the Leroy C. Lewis homestead, which was patented in 1923. The site is situated on a terrace immediately south of Threemile Creek, an ephemeral tributary of Otter Creek and the Tongue River. Local vegetation includes sage, mixed grasses, alfalfa, leafy spurge, cottonwood trees, and ponderosa pines. Benchlands that border the Threemile Creek valley provide some protection from winds.

Observed cultural manifestations include a stone cellar, a corral complex, a concrete and stone lined well with associated windmill parts, a debris-filled depression, a modern pump house and stock tank, a pile of timbers and boards, and a variety of farm implements and other artifacts. These last include a hay rake, a threshing machine, parts of a Model A(?) Ford automobile, a Model 1907 Excelsior motorcycle frame, a kitchen scale, brown, clear and amethyst glass fragments, canning jar lids, wire nails, a flour sifter, parts of a wood stove or range, and a Fordson radiator.

The cellar measures 24 ft square with an entryway on the south side measuring 12 ft square. There is an interior partition in the southeast corner measuring 10 by 12 ft and a partition that extends nearly the whole way across the cellar and encloses the approximate northern third of the structure. The cellar is constructed of undressed, uncoursed sandstone slabs partially set in mortar. Squared log rafters measuring about 12 inches are set above the entryway. On the west side of the feature are some short lengths of 14 inch diameter logs, and on the east side are fragments of pine roofing boards. The feature, which is situated at the foot of a bench slope on the southern site perimeter, was probably associated with the location of a house.

The debris-filled depression measures about 10 by 12 ft in area and about two feet deep. The feature is located near the well and probably represents the remains of an outbuilding. The corral complex is built of large posts and timbers. The feature is well-preserved and may still be in use for branding or other activities, and the site as a whole is currently in use as a stock watering and feeding station. A pile of planks and timbers at the northern end of the site probably originated from the site's features, and is evidence of some salvage activity.

The site lies on land homesteaded by Leroy C. Lewis. Lewis was granted a 320 acre homestead patent on September 14, 1923. The patent was for an original homestead entry on the north half of Section 12, T4S R45E (GLO 1923). The land is currently owned by Brian Tarter and Tarter Family trust.

24PR2294 - G29

Legal Location: T4S R45E, SWSESENE Section 12

Elevation: 3180 ft

Cultural Period: Prehistoric

Site Type: lithic scatter

Description: The site is a lithic scatter occupying an area of about 12 by 45 meters. The site is situated at the terminus of a bench lobe that stands just above the valley of Threemile Creek, which lies about 250 m to the north. Threemile Creek is an ephemeral tributary of Otter Creek, a perennial tributary of the Tongue River. Soil appears to consist of loamy sand and gravel. Vegetation consists of very sparse grasses, sage, juniper, small ponderosa pines and skunkbush sumac. Surface visibility was excellent, in excess of 95 percent. The view from the site is restricted by higher terrain to the south, but is excellent over the nearby valley of Threemile Creek. The site is probably totally deflated.

Observed cultural materials include two modified flakes (A1- 6.25 m at 244° and A2- 10 m at 210°), five primary flakes, two secondary flakes, and five shatter flakes, all of porcellanite. Nothing was collected. Most of the flakes were clustered in a small area near the modified flakes.

24PR2295 - G30

Legal Location: T4S R45E, ESENESENE Section 12

Elevation: 3240-3260 ft

Cultural Period: Prehistoric

Site Type: lithic scatter with possible groundstone implement

Description: The site is a lithic scatter with a possible groundstone implement and occupies an area of about 10 by 55 meters. The site is situated on the summit of an eroded finger ridge that divides ephemeral tributaries of Threemile Creek and Shorty Creek. Threemile Creek is an ephemeral tributary of Otter Creek, a perennial tributary of the Tongue River, and lies about 400 m north of the site. Shorty Creek, an ephemeral tributary of Threemile Creek, is about 220 m to the northeast. Soil appears to consist primarily of scoria gravels with small amounts of loamy sand. Onsite vegetation consists of sparse grasses and sage with nearby junipers and ponderosa pines. Surface visibility was excellent, in excess of 95 percent. The view from the site is restricted by higher terrain to the southeast, but is excellent over the valley of Threemile Creek and some nearby tributary drainages. The site is probably totally deflated.

Observed cultural materials include one possible metate, an estimated 50-75 porcellanite primary secondary and shatter flakes, 5-10 porcellanite core fragments, and one large porcellanite core. The possible metate (A1- 3.5 m at 105°) is made of a piece of tabular, orange-colored sandstone and is hollowed in the center. However, there is no obvious use-wear. A1 was photographed with a digital camera.

Section 14, T4S R45E

24PR55

Legal Location: T4S R45E, SENENE, NENENESENE Section 14 (irregular section, NE corner used with template) and NWNWNWSWNW Section 13,

Elevation: 3482 ft (1061 m)

Cultural Period: Prehistoric

Site Type: lithic scatter

Description: The 280 m northwest-southeast by 180 m northeast-southwest site lies on top of a high, flat-topped hill top within a large southeast-to-northwest trending ridge complex on the east side of the Otter Creek valley. The site was originally recorded by Davis and Niles (1975) who reported a partial projectile point, a beveled edge bifacial knife (a Late Plains Archaic diagnostic) and a biface fragment in addition to a sprawling scatter of porcellanite flakes and tested cobbles. Cultural material observed in 2004 includes a large stage II biface and several hundred porcellanite flakes. From surface observations, the site appears to have little soil. Vegetation on the site surface is sparse, and weathered shale is exposed at the surface. The site does not appear to have much research potential, but testing will be required to properly evaluate this site's significance.

24PR56

Legal Location: T4S R45E, SSESEWNNE Section 14 (irregular section, SW corner used with template)

Elevation: 3367 ft (1026 m)

Cultural Period: Prehistoric

Site Type: lithic scatter

Description: The 25 m north-south by 35 m east-west site lies on top of a high, eroded knoll on a southeast-to northwest trending ridge that separates several unnamed ephemeral tributaries of Otter Creek. Cultural material observed in 2004 includes a large side-notched projectile point (A2, 4 m at 250 degrees), a biface made of silicified wood (A1, 2 m at 250 degrees), a few pieces of sandstone FCR and about 20 porcellanite flakes, mostly primary and secondary reduction. The site appears from surface indications, to be in an advanced state of erosion. Vegetation on the site surface is very sparse, and weathered shale is exposed at the surface. The site does not appear to have much research potential. The site was originally recorded by Davis and Loscheider (1975) who reported the site essentially as it was observed during the current project.

24PR57

Legal Location: T4S R45E, WNENWNE Section 14 (irregular section, NE corner used with template)

Elevation: 3331 ft (1015 m)

Cultural Period: Prehistoric

Site Type: lithic scatter

Description: The 150 m northwest-southeast by 35 m northeast-southwest site lies on top of a high, eroded ridge spine on a southeast-to northwest trending ridge that separates several unnamed ephemeral tributaries of Otter Creek. The site was originally recorded by Loscheider, Davis and Carlson (1975) who reported a red quartzite blade tip and a scatter of porcellanite flakes. Cultural material observed in 2004 includes a small corner-notched projectile point (A1, 40 m at 195 degrees) and about 35 porcellanite flakes, representing primary, secondary and tertiary reduction. The site appears from surface indications, to be in an advanced state of erosion. Vegetation on the site surface is very sparse, and weathered reddish shale is exposed at the surface. The site does not appear to have much research potential.

24PR2296 - 14B8

Legal Location: T4S R45E, NWSESESE Section 14

Elevation: 3280 ft

Cultural Period: Prehistoric

Site Type: lithic scatter

Description: The site is a lithic scatter measuring about 40 m north-south by 30 m east-west. The site is situated on a finger ridge that divides two arroyos near the head of an unnamed ephemeral tributary of Otter Creek, a perennial tributary of the Tongue River. Onsite vegetation includes prairie grasses, sage, and juniper with ponderosa pines on a nearby knoll. Sediments consist of pale brown sand loam. The site vicinity appears severely eroded. Surface visibility was excellent, in excess of 75 percent. The site provides good views of nearby drainages and uplands.

Observed cultural material consists of one light gray porcellanite scraper (A1- 5.5 m at 248°), one dark red porcellanite Stage I biface fragment (A2- 21 m at 85°), one yellow chert flake, and 25+ porcellanite flakes. Specimen A1 was photographed.

24PR2297 - 14D6

Legal Location: T4S R45E, NWNENESWSW Section 14 (irregular section, SW corner used with template)

Elevation: 3213 ft (979 m)

Cultural Period: Prehistoric

Site Type: lithic scatter

Description: The 30 m diameter site lies on an eroded lobe on the northwest edge of a 5-m deep arroyo that drains into Otter Creek, about 2 km to the west. The site area is erosive and is covered with sparse grasses and sage. Cultural material observed includes a proximal fragment of a stage II biface and about 50 flakes, mostly primary and secondary reduction. All observed artifacts are of porcellanite. Fragments of a bison skull (probably not a cultural deposit) are eroding from the cut bank on the opposite side of the arroyo, 60 meters at 218 degrees from datum. The site appears from surface indications, to be nothing more than a small lithic reduction station. It does not appear to have much research potential, but testing is recommended to confirm this prior to any disturbance.

24PR2298 - 14W2

Legal Location: T4S R45E, NWSWSENE Section 14 (irregular section, NE corner used with template)

Elevation: 3370 ft (1027 m)

Cultural Period: Prehistoric

Site Type: lithic scatter

Description: The 20 m north-south by 45 m east-west site lies on top of a high, eroded knoll on a southeast-to northwest trending ridge that separates several unnamed ephemeral tributaries of Otter Creek. Cultural material observed includes an end scraper (A1, 2m at 0 degrees) made of Knife River Flint, and 12 porcellanite flakes, mostly secondary and tertiary reduction. The site appears from surface indications, to be in an advanced state of erosion. Vegetation on the site surface is very sparse, and weathered shale is exposed at the surface. The site does not appear to have much research potential.

Section 16, T4S 45E

24PR2255 (Recorded by DNRC)

Legal Location: SNWNWNW Section 16, T4S R45E

Elevation: 3100 ft/ 945 m

Cultural Period: Prehistoric

Site Type: lithic scatter

Description: As observed in the field, the site consists of a thin scattering of percussion flaked gray and black colored porcellanite on top of a narrow point of land. The soils in the site locale are thin and heavily eroded and the sediments consist of sandstone and culturally unmodified porcellanite gravels. Four size grade 1 and size grade 2, secondary reduction stage, gray and black porcellanite flakes (all of which exhibit flat platforms); one piece of size grade 1, secondary reduction stage, shatter of gray porcellanite; and small gray porcellanite flake core, and rounded quartzite cobble that may have served as a hammerstone, but at the very least was likely culturally transported to the site.

Kenecott Energy is proposing to drill a single, 4 inch diameter exploratory hole within

the defined boundaries of the site. It is this author's opinion that the drill activities would have had No Effect on the site-- even if the site were to be evaluated and determined to be a Historic Property. The site appears to be largely intact, but situated on a fully eroded ground surface. However, depth of cultural materials, and contextual integrity of cultural materials, in the site is unknown. The site is typical for the area and probably reflects a limited porcellanite collection and subsequent reduction site where locally available, and moderately abundant, porcellanite pieces were collected and minimally reduced. A datum was established in the site for mapping purposes and so that future researchers could accurately identify the site locale. The datum consists of an aluminum tag with the date, the site field number, and the letters DNRC. The aluminum tag is wired to a wire pin flag and both the tag and pin flag are covered over with a small heap of locally available sandstone slabs forming a small cairn on a small eroded gumbo knoll at the south margin of the site.

24PR2299 - 16D1

Legal Location: T4S R45E, NWSWNE Section 16

Elevation: 3178 feet (957 m)

Cultural Period: Prehistoric

Site Type: historic road alignment / bridge

Description: The 130 m north-south by 35 m east-west site consists of the remains of a small bridge associated with a former alignment of the Otter Creek Road (County Route 484). The road crosses an unnamed, ephemeral tributary of Otter Creek in this location. The original alignment is about 50 meters east of the current highway. The site consists of the bridge abutments and short segments of the approach and road grade on either end of the bridge. The abutments are earth-filled. Each is supported with nine posts, 10 to 12 inches in diameter, which held a three-sided, four feet high retaining wall made of 3x12 inch planks. The roadbed is about 16 ft wide and appears to have been reclaimed and /or fades into the current road alignment within a few hundred feet of this feature. The site has no particular historical importance and no potential for yielding additional important information. The county records were not consulted for the precise age of the structure, but it is estimated to date to the 1940s or 1950s.

24PR2300 - 16D3

Legal Location: T4S R45E, SESWNE, NENWSE, NWNE Section 16

Elevation: 3178 feet (957 m)

Cultural Period: Prehistoric

Site Type: lithic scatter

Description: The 145 m north-south by 35 m east-west site consists of a diffuse scatter of porcellanite debitage. The site is located on a high knoll at the end of a south-to-north trending ridge in open grassland. Vegetation on the site is very sparse grass. The site

area has almost no soil and is covered with a veneer of tertiary gravel containing chert, quartzite, silicified wood and porcellanite. The gravel is generally too small for tool use, but a few cobbles had been tested. Cultural material observed includes about 30 primary flakes and one secondary flake of porcellanite. No tools, FCR or features were observed. The site is a short-term use lithic reduction station and has no potential for yielding additional archaeological information.

24PR2301 - G48

Legal Location: T4S R45E, SSWSE, SWSENNWSE Section 16; EENWNWNE, SWNENWNE, NNWSENNWNE Section 21

Elevation: 3180-3220 ft

Cultural Period: Prehistoric

Site Type: stone rings

Description: The site consists of at least eight stone rings, four cairns, and a thin scatter of porcellanite artifacts, and occupies an irregular area measuring about 430 m north-south by 210 m east-west. The site is primarily situated on the summit and flanks of a broad hill, but also extends southward across a saddle and onto an adjacent finger ridge. The hill lies within an area of uplands that overlooks the valley of Otter Creek, which lies about 700 m to the east. Otter Creek is a perennial tributary of the Tongue River. On-site vegetation consists of mixed grasses, sage, and prickly pear cactus. Soil appears to consist of sand loam, and the depositional/erosional situation appears stable to moderately erosive, depending on slope and plant cover. The view from the highest portion of the site is panoramic and very extensive, affording good to excellent views of the valley of Otter Creek, some of its tributary drainages, and adjacent uplands. Surface visibility averaged approximately 50%, with some areas of poor visibility, particularly in a thick patch of sage brush in the central portion of the site.

Most of the stone features, both rings and cairns, are situated at or near the perimeter of the hill top. All of the features are shallowly buried, and several are relatively well-defined. All are constructed of locally available scoria stones, most of which are well-lichened.

Ring 1 (5 m at 131°) is relatively well-defined (about 3/4 complete), has an interior dimension (ID) of about four meters, and is constructed of approximately 34 stones. Ring 2 (26 m at 144°) is a moderately defined arc (only about 1/4 complete), has an ID of about two meters, and is constructed of six or more stones. Ring 3 (49 m at 141°) is poorly defined and perhaps half complete, has an ID of about five meters, and is constructed of 21 or more stones. Ring 4 (77 m at 136°) is moderately defined (about 3/4 complete), has an ID of about five meters, and is constructed of 25 or more stones. Ring 5 (158 m at 109°) is relatively well-defined (nearly complete), has an ID of about five meters, and is constructed of approximately 27 stones. Ring 6 (22 m at 50°) is poorly defined and less than half complete, has an ID of four or more meters, and is constructed of 18 stones. At the approximate center of Ring 6 is a unifacially modified flake of gray porcellanite with

nicks along one edge that might be indicative of use-wear. Ring 7 (83 m at 160°) is relatively well-defined (nearly complete), has an ID of about five meters, and is constructed of 26 or more stones. Ring 8 (93 m at 169°) is relatively well-defined (nearly complete), has an ID of about five meters, and is constructed of 38 or more stones. See also the attached Ring Attribute Form.

Cairn 1 (407780 E 5037182 N) is a relatively well-defined cairn situated on a small bench lobe on the northeastern site perimeter. The cairn is roughly circular in plan, constructed of about 15 stones, and measures about 120 cm north-south by 110 cm east-west. Cairn 2 (16 m at 345°) is constructed of three stones arranged in a triangular pattern, and measures between 45 and 50 cm across. The feature is situated near the highest portion of the site. Cairns 3 and 4 are located on a ridge lobe on the northwestern site perimeter (407587 E 5037265 N). Cairn 3 measures between 1.5 and 1.75 m across and is constructed of about 16 stones. Cairn 4 measures about 1.5 meters across and is constructed of about 11 stones.

In addition to the modified porcellanite flake described above in association with Ring 6 (A1), there is a very thin scatter of porcellanite flakes which extends south from the main hill top portion of the site and onto a narrow finger ridge.

24PR2302 - G49

Legal Location: T4S R45E, SSESW, ESESW Section 16 (irregular section- template aligned on south boundary); NNNW, NNSNWNW Section 21 (irregular section- template aligned on north boundary)

Elevation: 3120-3200 ft

Cultural Period: Prehistoric

Site Type: lithic scatter and camp(?)

Description: The site is a very large lithic scatter and possible camp occupying an irregular area of about 400 m north-south by 750 m east-west. The site is situated on bench lobes, knolls and low, deflated terraces near the head of an unnamed ephemeral drainage. The drainage is a southern fork of a multi-branched ephemeral tributary of Otter Creek, a perennial tributary of the Tongue River. Otter Creek lies about one kilometer to the east-southeast. Soil appears to consist primarily of loamy sands and gravels with copious hardpan deposits. Most if not all of the site area appears heavily eroded by gullies and sheetwash, and the site is probably completely deflated. Vegetation consists of very sparse grasses, sage, juniper, yucca, and ponderosa pines. Surface visibility was excellent, in excess of 95 percent. Portions of the site provide good views of the drainages to the north and west; to the east and south the view is limited by higher terrain.

Cultural material is particularly dense in two locations- at the eastern end of the site on and near an eroded terrace, and in the central portion of the site on a hardpan flat near a mature ponderosa pine. Only two tools, both Stage II biface fragments (A1- 38 m at 256°

and A2- 305 m at 269°), were observed. Hundreds of porcellanite flakes were observed, along with an estimated 10-15 cores and core fragments. Very small amounts of other material was observed, including one core and one secondary flake of Yellowstone Agate adjacent to each other (34 m at 3°), and two flakes of gray vitreous porcellanite (one at 58 m at 351°). In addition, one piece of red quartzite FCR was observed on a bedrock surface (30 m at 10°). No features were observed however.

24PR2303 - G50

Legal Location: T4S R45E, SWNESWSW, NESENWSWSW Section 16 (irregular section- template aligned on west section line)

Elevation: 3120-3200 ft

Cultural Period: Prehistoric

Site Type: lithic scatter

Description: The site is a lithic scatter occupying an area of about 55 m southwest-northeast by 100 m northwest-southeast. The site is situated on a knoll in an area of benchland that divides ephemeral forks of a multi-branched tributary of Otter Creek, a perennial tributary of the Tongue River. Otter Creek lies about 1.4 km to the northeast. Soil appears to consist primarily of loamy sands and gravels with copious hardpan deposits. There is an outcrop of gypsum eroding from the knoll. The site is probably completely deflated. Vegetation consists of sparse grasses, forbs, sage and juniper. Surface visibility is excellent, in excess of 80 percent. The site affords a panoramic and relatively extensive view, particularly of nearby drainages.

Observed cultural material consists entirely of gray porcellanite artifacts, namely an estimated several hundred flakes (primary, secondary and shatter) and three core fragments. Nothing was collected.

24PR2304 - 16W1

Legal Location: T4S R45E, NNENENW, WNWNWNWNE 16 (irregular section- template aligned on northwest corner)

Elevation: 3180 feet (958 m)

Cultural Period: Prehistoric

Site Type: lithic scatter

Description: The site is a lithic scatter measuring about 150 m east-west by a maximum of 60 m north-south. The site is situated on a bench lobe that overlooks an unnamed ephemeral tributary of Otter Creek, a perennial tributary of the Tongue River. The channel of the ephemeral tributary is about 300 m to the southeast and Otter Creek is about 580 m to the east. Local vegetation includes sparse grasses, sage, prickly pear cactus and echinacea. Sediments appear to consist of sandy and gravelly loams. Gravels include porcellanite, petrified wood and scoria. The porcellanite gravels were utilized as

a lithic source. The site vicinity appears stable to moderately eroded. Surface visibility was good to excellent, in excess of 60 percent. The view from the site is extensive and panoramic, affording excellent views of the surrounding country.

Observed cultural materials include four Stage I biface fragments, two stream-worn quartzite cobbles, and an estimated 100+ porcellanite primary and secondary flakes. The stream-worn cobbles are exotic for the location and obviously manuported. They may have served as knapping billets.

24PR2305 - 16W2

Legal Location: T4S R45E, SNESENWNW, NSESENWNW Section 16

Elevation: 3192 feet (973 m)

Cultural Period: Prehistoric

Site Type: lithic scatter

Description: The 80 m east-west by 40 m north-south site consists of a diffuse scatter of porcellanite debitage. The site is located on a high knoll within a larger northwest-to-southeast trending ridge in open grassland. Vegetation on the site is very sparse grass. The site area has almost no soil, with exposed weathering shale and a veneer of tertiary gravel. Cultural material observed includes about seven primary flakes, a stage I biface fragment and one core of porcellanite. No formal tools, FCR or features were observed. The site is a lithic reduction station and probably has little potential for yielding additional archaeological information.

24PR2306 - 16W3

Legal Location: T4S R45E, NWSWNW, SWNESWSW and EENESENE Section 16

Elevation: 3205 feet (977 m)

Cultural Period: Prehistoric

Site Type: lithic scatter

Description: The 250 m east-west by 135 m north-south site consists of a diffuse scatter of porcellanite debitage. The site is located on a high knoll on a west-to-east trending ridge in open grassland. Vegetation on the site is very sparse grass and a few pine trees. The site area has little soil. Weathering shale, silt stone cap rock and a veneer of tertiary gravel are exposed on the surface. Cultural material observed includes 20 primary flakes, 18 secondary flakes, 7 tested cobbles, and 3 stage I biface fragments (all are of porcellanite). No formal tools, FCR or features were observed. The site is a lithic reduction station and probably has little potential for yielding additional archaeological information.

Section 18, T4S 45E

24PR2307 - 18B12

Legal Location: T4S R45E, SENESWSE Section 18

Elevation: 3400 ft

Cultural Period: Prehistoric

Site Type: lithic scatter, FCR

Description: The site consists of a small (ca. 5 m diameter) lithic scatter and a cluster of apparent sandstone FCR. The site is situated on a bench lobe overlooking an unnamed ephemeral tributary of Otter Creek. Otter Creek is a perennial tributary of the Tongue River that lies about four kilometers to the east. The unnamed tributary is about 180 m to the southwest. Local vegetation includes prairie grasses, sage, yucca, prickly pear cactus, juniper, and ponderosa pine. Sediments appear to consist of sandy and gravelly loams. The site vicinity appears stable to moderately erosive. Surface visibility was about 40%. The site affords good views of the nearby ephemeral stream valley and surrounding uplands.

Observed cultural material consists of three porcellanite flakes, two dark brown chert or agate flakes and 7-8 small pieces of apparent sandstone FCR. The possible FCR is reddened and appears oxidized.

24PR2308 - 18B13

Legal Location: T4S R45E NNESEWSE Section 18

Elevation: 3440 ft

Cultural Period: Prehistoric

Site Type: lithic scatter, FCR(?)

Description: The site consists of a small (ca. 12 m long) scatter of lithics and apparent sandstone FCR. The site is situated on a bench lobe overlooking an unnamed ephemeral tributary of Otter Creek. Otter Creek is a perennial tributary of the Tongue River that lies about 4.1 km to the east. The unnamed tributary is about 200 m to the southwest. Local vegetation includes prairie grasses, sage, juniper and ponderosa pine. Sediments appear to consist of sand loams with copious amounts of scoria gravel. The site vicinity appears stable to moderately erosive. Surface visibility was in excess of 90%. The site affords good views of the nearby ephemeral stream valley and surrounding uplands.

Observed cultural material consists of one red porcellanite biface fragment (A1- 8 m at 265°), one gray porcellanite end scraper (A2- 6 m at 252°), six porcellanite flakes, and one white quartzite flake. Some possible FCR was also observed.

24PR2309 - 18B16

Legal Location: T4S R45E, SNSENE, NSESENE Section 18

Elevation: 3440 ft

Cultural Period: Prehistoric

Site Type: lithic scatter, surface lithic source

Description: The site consists of a lithic scatter and surface lithic source measuring about 150 m east-west by a maximum of 40 m north-south. The site is situated on the summit of a ridge that divides unnamed ephemeral tributaries of Otter Creek. Otter Creek is a perennial tributary of the Tongue River that lies about four kilometers to the east. The unnamed tributaries are between 150 and 200 m to the north and south. Local vegetation includes prairie grasses, sage, juniper and ponderosa pine. Sediments appear to consist of sandy and gravelly loams. There is naturally occurring porcellanite along the ridge top. The site vicinity appears stable to severely erosive, depending on slope. Surface visibility was about 30-50%. The site affords a panoramic and extensive view of the surrounding country except where blocked by trees.

Observed cultural material consists of sparsely scattered porcellanite flakes, mostly primary stage

24PR2310 - 18D8

Legal Location: T4S R45E, SSENENWNE, SENWNE Section 18 (Irregular section, nearest corner used with template)

Elevation: 3353 ft (1022 m) at datum

Cultural Period: Prehistoric

Site Type: campsite, stone rings, lithic scatter, paleontological

Description: The irregularly-shaped, 210 m north-south by 160 m east-west site lies on top of a prominent southwest-to-northeast trending ridge. The site area includes a low saddle at the southwest end, and covers several lobes of the ridge. The site area was sparsely timbered but has recently burned. Cultural material observed includes two stone rings (see table), an eroded hearth, a biface fragment, a modified flake and hundreds of porcellanite flakes. Feature 1 (65 m at 340 degrees) is a 4.5-m diameter stone ring made of 44 sandstone and scoria rocks. A unifacially modified porcellanite flake, A2, was found within the feature. Feature 2 (93 m at 358 degrees) is a 5-m diameter stone ring made of 65 sandstone and scoria rocks. Feature 3 is a 1.5 m diameter arc-shaped cluster of 14 rocks located adjacent to Feature 2. It may be a deflated cairn, or some kind of appendage to the ring. Feature 4 (see UTMs) is an eroded / deflated hearth on the point of the ridge lobe. It consists of a 1-m diameter cluster of over 40 pieces of sandstone FCR and oxidized slabs. This feature is totally collapsed and surficial, retaining no structural integrity. Debitage is clustered in three areas: in the saddle near datum, near Feature 1 and near Feature 4. A diffuse scatter ofdebitage is found elsewhere on the site. Also found was a small, well-rounded piece of fossilized bone (7 m at 0 degrees). The fossil bone does not appear to be *in situ*; it probably was in the residual gravel on the landform.

24PR2311 - 18D9

Legal Location: T4S R45E, NWNENENW Section 18

Elevation: 3370 ft (1027 m)

Cultural Period: Prehistoric

Site Type: lithic scatter

Description: The 95 m northeast-southwest by 20 m southeast-northwest site lies on top of a prominent south-to-north trending ridge. The site area is at the end of a northeast pointing projection of the ridge, on exposed weathering bedrock. The site area was timbered, but has recently burned. The site has no possibility of a subsurface component. Cultural material consists of over 100 porcellanite flakes, mostly primary reduction and core fragments. These probably were hauled to the site from adjacent scoria-capped hills. No tools or features were observed.

24PR2312 - 18D10

Legal Location: T4S R45E, NNENWNENW Section 18 and SESWSESW 7

Elevation: 3334 ft (1016 m)

Cultural Period: Prehistoric

Site Type: lithic scatter

Description: Most of the 150 m north-south by 60 m east-west site lies outside of the study area in Section 7. The site area is a finger-shaped terrace that projects northward from a higher landform to the south. The site area is bounded on the east and west by deep arroyos that converge at the north end of the site. The surface of the terrace is covered with dense grass and sagebrush and has fairly low visibility. Cultural material observed at the site includes over 100 porcellanite flakes, exhibiting primary, secondary and tertiary reduction characteristics. One tool, a fragment of a large biface or knife made of silicified wood was observed 6 m at 164 degrees from datum. Moderate soil development is possible and the majority of the landform is stable. Testing, including a gradiometer survey, would be required to see if the site has archaeologically significant content (i.e., hearths and activity areas and not just scattered debitage).

24PR2313 - 18D11

Legal Location: T4S R45E, NSENE Section 18 (Irregular section, nearest corner used with template)

Elevation: 3314 ft (1010 m)

Cultural Period: Prehistoric

Site Type: campsite

Description: The 45 m north-south by 90 m east-west site lies on the broad and nearly level top of a prominent west-to-east trending ridge. The site area is largely exposed

weathering shale with patches of thick grass cover. Cultural material is primarily exposed in a large blowout. Observed cultural material includes a stage II biface, a sparse scatter of about 20-30 pieces of sandstone FCR, including some rapidly cooled specimens, and about 15 porcellanite flakes. One surface cluster of six pieces of FCR lies 22 m at 152 degrees from datum, but no intact or identifiable features were noted. A significant subsurface component is not anticipated. Testing maybe required to determine whether the site has any subsurface component.

24PR2314 - G9

Legal Location: T4S R45E, SESEWNSE Section 18

Elevation: 3380 ft

Cultural Period: Prehistoric

Site Type: lithic scatter

Description: The site is a small, sparse lithic scatter occupying an area of about 20 m north-south by 12 m east-west. The site is situated on a finger ridge located within forested uplands and overlooking an ephemeral stream valley. The ephemeral stream, which lies about 300 m to the north, is a tributary of Otter Creek and the Tongue River. Otter Creek lies about four kilometers to the east. Soil consists of a thin, unconsolidated layer of loamy sand overlying bedrock, which outcrops within the site area. The site is probably completely deflated. Vegetation consists of very sparse grasses, yucca, skunkbush sumac, junipers, and ponderosa pines. At the time of recording, the pines and junipers were charred and dead as a result of a forest fire in 2003. Surface visibility was excellent, in excess of 95 percent. The site affords excellent views of the country to the north and northeast. The view is obscured by terrain and forest cover from south to west.

Observed cultural material consists of one gray porcellanite Stage II or III biface fragment (A1- 14.25 m at 207°), one unifacially modified flake (A2- 7 m at 248°), four gray porcellanite shatter and secondary flakes, and one light gray quartzite secondary flake. Nothing was collected.

24PR2315 - G13

Legal Location: T4S R45E, NWNWSENW, NSWNWSENW Section 18

Elevation: 3500-3520 ft

Cultural Period: Prehistoric

Site Type: lithic scatter, camp(?), surface lithic source

Description: The site consists of a very dense lithic scatter with a possible hearth, and occupies an area of about 140 m northwest-southeast by a maximum of 40 m southwest-northeast. The site is situated on the margin of a hill top in forested uplands. The site is partially demarcated by a line of low sandstone bluffs along the southern margin of the hill summit. The uplands form a portion of the divide between ephemeral tributary drainages of Otter Creek, a perennial tributary of the Tongue River. Otter Creek lies

about five kilometers to the east. Soil consists of loamy sand and gravel. There are some porcellanite gravel deposits in the area that might have been utilized as lithic sources. The location is currently highly erosive due to the lack of plant cover, and the site is probably severely deflated. Vegetation, which was recently (2003) burned off, consists of very sparse bunch grass, forbs, yucca, junipers, ponderosa pines and what appear to be invasive weeds (thistle, primarily). The junipers and ponderosa pines are charred and dead. Surface visibility was nearly 100 percent. The view from the site is partially obscured by terrain and forest cover; however, very extensive but limited views are afforded in all directions except to the northwest.

Observed cultural material consists of five tool fragments (A1-A5), an estimated 15-20 porcellanite core fragments and an estimated several thousand primary and secondary flakes, all of porcellanite, and a possible hearth (Feature 1). All of the tools and the densest concentration of flakes were clustered in a small, approximately 10 m diameter area near Feature 1. There are several hundred flakes within a two or three meter diameter area on one of the bench lobes. The datum was established in this area.

A1 (9 m at 53°) is a brown porcellanite Stage III biface fragment. A2 (10 m at 68°) is a brown chert Stage II biface fragment. A3 (10 m at 73°) is a gray porcellanite Stage II biface fragment. A4 (8 m at 103°) is a proximal fragment of a possible beveled knife. A5 (9 m at 103°) is a large purple porcellanite Stage I biface fragment that measures about 5 by 10 cm across. The possible beveled knife fragment (A4) was photographed with a digital camera.

Feature 1 (10 m at 20°) is a circular arrangement of clinker and/or low grade porcellanite cobbles measuring about 45 cm across. The arrangement includes seven stones. The soil in the center is reddish and may be oxidized. No charcoal was observed. The feature resembles a modern hearth, but its proximity to the densest concentration of prehistoric artifacts suggests that it could be prehistoric. The feature is probably at least partially deflated.

24PR2316 - G14

Legal Location: T4S R45E, NSWNESENW, NWSENESENW, NESENWSENW Section 18

Elevation: 3480 ft

Cultural Period: Prehistoric

Site Type: lithic scatter, surface lithic source

Description: The site consists of a dense lithic scatter in the vicinity of a surface lithic source, and occupies an area of about 30 m north-south by 145 m east-west. The site is situated on a finger ridge in forested uplands. The uplands form a portion of the divide between ephemeral tributary drainages of Otter Creek, a perennial tributary of the Tongue River. Otter Creek lies about five kilometers to the east. Soil consists of loamy sand and gravel. There are some porcellanite gravel deposits in the area that might have been

utilized as lithic sources. The location is currently highly erosive due to the lack of plant cover, and the site is probably severely deflated. Vegetation, which was recently (2003) burned off, consists of sparse bunch grass, yucca, junipers, and ponderosa pines. Many, but not all, of the junipers and ponderosa pines are charred and dead. Surface visibility is in excess of 95 percent. The view from the site is partially obscured by terrain and forest cover; however, very extensive but limited views are afforded in most directions. Observed cultural material consists solely of porcellanite primary, secondary and shatter flakes along with about five core fragments. Nothing was collected.

24PR2317 - G17

Legal Location: T4S R45E, ESWNWSW, WSENWSW Section 18

Elevation: 3520 ft

Cultural Period: Prehistoric

Site Type:): petroglyph and graffiti panels, isolated flake; possible rock shelter

Description: The site consists of a prehistoric petroglyph panel, some historic graffiti, and a potential rock shelter containing a single large porcellanite flake. Together, the rock art and graffiti panels span a distance of about 25 m along the eastern face of a large sandstone monolith. The site is located about 65 m north of an unnamed tributary of Newell Creek, a tributary of Otter Creek. Otter Creek is a perennial tributary of the Tongue River that lies about 5.25 km to the east. Newell Creek is one of the few tributaries of Otter Creek which currently contains water, and a small spring is located in the stream drainage immediately south of the site. An open meadow extending to a saddle and terraces to the east and southeast of the monolith may conceal additional surface artifacts or buried cultural components. This area needs to be tested because of extremely poor surface visibility caused by heavy grass cover. Surrounding the meadow are stands of ponderosa pines, many of which stand scorched and dead as the result of a wildfire occurring in the summer of 2003. Other local vegetative species include sage, yucca, prickly pear cactus, and skunkbush sumac. The view from the site is limited to the extent of the adjacent meadow, a distance of perhaps 150-200 meters.

The prehistoric petroglyph panel includes one shield-bearing warrior and three V-neck figures. See the attached sketch and photographs. All the figures are composed of simple incised lines. The largest figure is an interesting, skeletal-looking V-neck located to the right of the shield bearer (from the observer's vantage). This figure, which stands about 28 cm tall, has a large head with an apparent hair and/or headdress, large, "socket-like" eyes, a long neck with what appear to be vertebrae, and long, "lightning bolt" arms. The neck-vertebrae structure extends from the head to a triangular object that is typically interpreted as a heart and is connected to a line leading to the mouth- a so-called "lifeline" (Keyser and Klassen 2001). Both arms terminate in a six fingered hand.

The shield bearer, who stands about eight centimeters tall, holds a shield that measures about seven centimeters across. From the left of the shield protrudes a spear with an exaggerated projectile point that pierces the body of a large V-neck figure to the left of the shield bearer. The shield appears fringed and the interior is filled with a series of six

horizontal lines that are bifurcated at the approximate center by a single vertical line. Interestingly, two pairs of feet protrude from behind the shield. One appears in the typical location at the bottom of the shield, while another, smaller pair protrudes from about the eight o'clock position on the shield. From the top of the shield protrudes a heavy angled line, apparently meant to represent a head or headdress.

The V-necked figure to the left of the shield bearer is much simpler than the one to the right. This figure stands about 16 cm tall and has a relatively large, but simple, and roughly ovoid head measuring about four centimeters across. The figure also has relatively long arms, one of which is bent and appears to terminate in a three-fingered hand. Set off to the left and below this figure is a smaller V-neck with a rectangular body and no discernable arms. This figure is the smallest and simplest of the four figures, and stands about eight centimeters tall.

The motifs represented in the panel appear to coincide with Keyser's (1987) "Ceremonial" and/or "Biographic" traditions which span a time covering portions of the Late Prehistoric, Protohistoric and Historic periods.

The panel is in excellent condition and has not been defaced. One apparent realistic horse portrayed beneath the other figures is suspected to be a late historic or modern manifestation.

Observed lithics include a very large porcellanite primary flake measuring about five by eight centimeters across. This flake was found immediately next to the rock face near a slight overhang. In addition, a small but relatively dense cluster of porcellanite flakes was found on top of the sandstone monolith. Nothing was collected.

Historic-modern graffiti includes primarily initials and dates, the earliest of which dates to 1883. Manifestations include: "R.T. TATE...RT...1883" alongside a stylized "F" or something similar, "W. McNeil 3/9/1904" in elaborate script, "JULIA WINTON 1921", "WAF 1922", "TCC 1921", "P TATE 1935" and "W. PENTON 8/15/49" with "1931" directly below, and a profile of a man's head with a cowboy hat and the nearby initials "W.B. 66"(?) with an arrow pointing to the cowboy. A realistic horse figure noted above near the prehistoric panel is probably also either a late historic or modern manifestation. There are also a few other enigmatic and faint lines that could represent additional graffiti or even prehistoric petroglyphs.

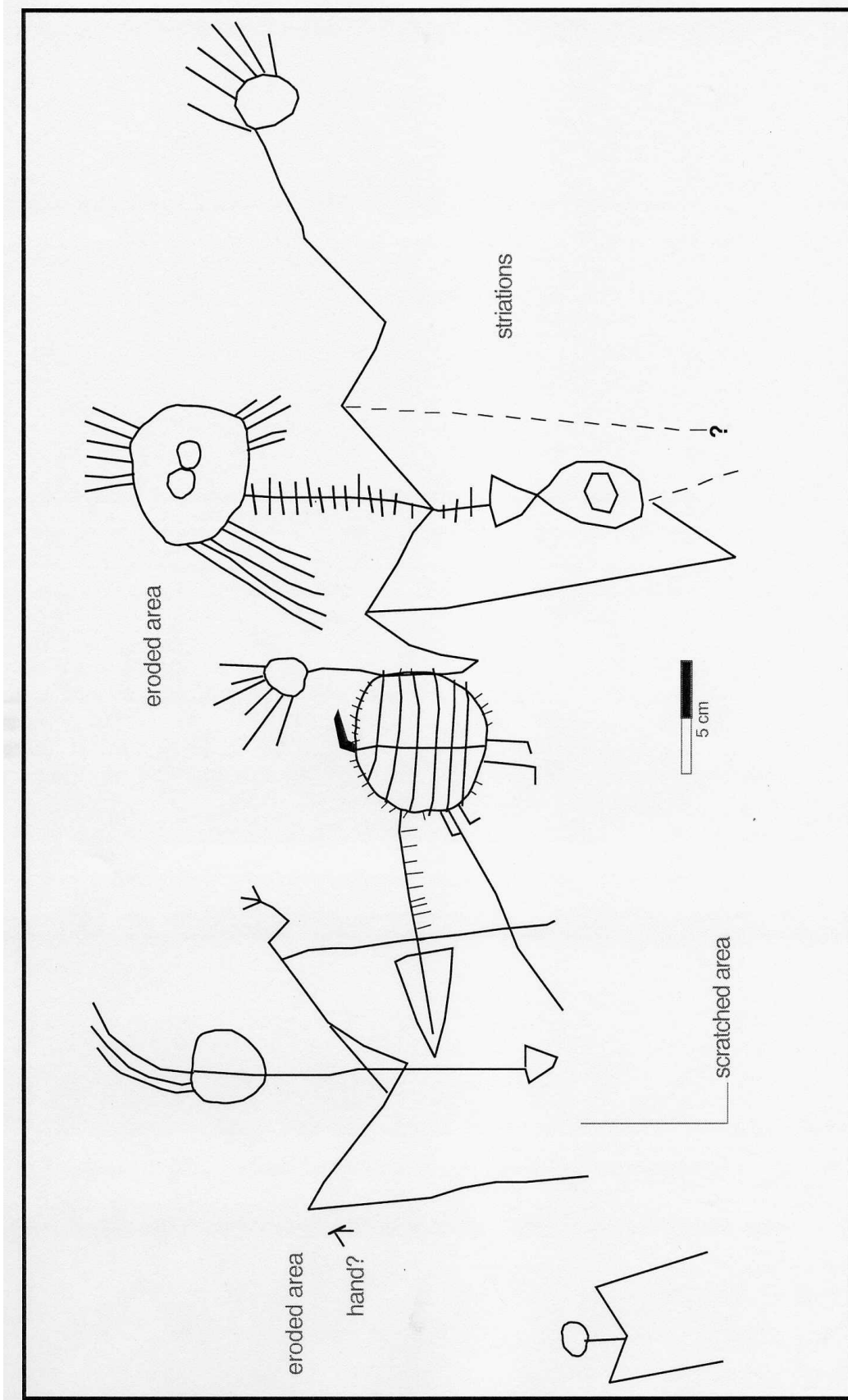


Figure 6-1. Sketch of the prehistoric petroglyph panel at 24PR2317.

Section 20, T4S 45E

24PR2318 - G72

Legal Location: T4S R45E, NWNWNENWNE Section 20

Elevation: 3180 ft

Cultural Period: Prehistoric

Site Type: lithic scatter and stone feature(?)

Description: The site consists of a possible feature and a small, scant lithic scatter occupying an area of about 25 m east-west by 30 m north-south. The site is situated on a low, broad finger ridge overlooking an ephemeral drainage. The finger ridge divides two small ephemeral tributaries of a main ephemeral tributary situated about 350 m to the north. This last stream is a western tributary of Otter Creek, a perennial tributary of the Tongue River, which lies about 2.5 km to the east. Local vegetation includes sparse bunch grasses, sage and sweet clover. Sediments consist of sandy and gravelly loams. Based on pin flag probing, the soil is at least 40 cm deep. However, rates of erosion are probably fairly high on account of the general lack of vegetative cover. Surface visibility is about 75 percent. The view from the site is excellent to the north, over the ephemeral drainage, but more limited to the south due to higher terrain.

The possible stone feature (Feature 1) consists of five scoria stones arranged in a tight "star" pattern. The stones are between 12 and 20 cm across and the cluster is between 46 and 50 cm across. No oxidized soil or charcoal was observed. If the arrangement is cultural and not fortuitous, the feature may represent either the remains of a hearth or a small cairn. Surrounding the possible feature is a scatter of lithics including one gray porcellanite Stage I biface fragment and four porcellanite primary flakes.

24PR2319 - G73

Legal Location: T4S R45E NNWNWNENW Section 20

Elevation: 3220 ft

Cultural Period: Prehistoric

Site Type: lithic scatter consisting of two tools

Description: The site consists of two chipped stone tools situated about 43 m apart. The site is located on a bench lobe along a broad finger ridge that divides two forks of a western ephemeral tributary of Otter Creek, a perennial tributary of the Tongue River. The main stream channel of the unnamed tributary is located about 350 m to the north. Otter Creek is about three kilometers to the east. Local vegetation includes mixed grasses, sage and prickly pear cactus. Surface visibility is quite poor, probably less than 20%, mostly on account of thick sagebrush. Sediments consist generally of sandy and gravelly loams. The site is probably either stable or slightly erosive. The view from the site is excellent to the north, over the ephemeral drainage, but more limited to the south due to higher terrain.

Tool A1 (30.5 m is a projectile point fragment made of a milky chalcedony or agate with black inclusions. Only a portion of one notch is extant; in addition the distal end and most of the base is missing, precluding identification. The specimen appears to be at least atlatl sized, however. A1 was photographed with a digital camera. Tool A2 (14 m at 304°) is a purple porcellanite uniface that may have functioned as a scraper.

24PR2320 - G74

Legal Location: T4S R45E, NNWNESW, WNWNENESW, SSWSSENW, SWSESENW, SESESWNW Section 20

Elevation: 3180-3220 ft

Cultural Period: Prehistoric

Site Type: stone rings, cairn, lithic scatter

Description: The site consists of three possible stone rings, one cairn and a large but scant lithic scatter measuring about 360 m east-west by a maximum of 180 m north-south. The site is situated on a broad ridge summit overlooking Newell Creek, which lies about 100 m to the northeast, and a southern fork of Newell Creek, which lies about 100 m to the southwest. Newell Creek is an ephemeral tributary of Otter Creek, a perennial tributary of the Tongue River. Vegetation consists of sparse grasses, sage, prickly pear cactus, juniper and ponderosa pines. Soil appears to consist of sandy and gravelly loam, and the depositional/erosional situation appears stable to mildly erosive. The view from the site is panoramic and extensive. Surface visibility varied considerably, between about 30 and 90 percent. Visibility was notably poor in patches of sagebrush. There is a recent linear disturbance that courses between Features 1 and 2 over a saddle at the western end of the site. The disturbance is probably a fire break constructed in 2003 when a forest fire swept through the highlands to the west of the site.

The stone features are situated on a saddle near the western site boundary and on the southern perimeter of the hill top. All are constructed of locally available scoria and clinker stones, many of which are well-lichened. All with the exception of the cairn (Feature 3) are shallowly buried.

Feature 1 (50 m at 285°) is a moderately defined stone arc constructed of 21 or more stones with an interior dimension (ID) of about five meters. The arc is oriented east-west, and the feature is less than 1/4 complete. In the approximate center of the arc is a cluster of four stones. Feature 2 (37 m at 288°) is a poorly defined stone arc constructed of eight stones with an ID of about three meters. Three stones located about three meters to the east might be displaced stones. The arc is oriented north-south and the feature is less than 1/4 complete. Feature 3 (used as the datum- with an attached tag) is an ovoid cairn measuring about 110 cm north-south by 90 cm east-west. The cairn is constructed of 11 stones in a single layer. The stones are well-sodded. A pin flag can be inserted to a depth of about 15 cm at the location. Feature 4 (114 m at 136°) is a poorly defined quasi-circular arrangement of about 40 stones with an ID of about five meters. Perhaps part of the reason for the poor definition of the feature is the fact that it is located at a cluster of naturally occurring stone. See also the attached Ring Attribute Form.

Observed artifacts include approximately 15-20 gray porcellanite primary, secondary and shatter flakes, and one primary flake of red and gray banded chert. The chert flake was observed near the southeastern site perimeter.

24PR2321 - 20W1

Legal Location: T4S R45E, SWSENE Section 20

Elevation: 3289 feet (1002 m)

Cultural Period: Prehistoric

Site Type: lithic scatter

Description: The 80 m north-south by 40 m east-west site consists of a diffuse scatter of porcellanite debitage. The site is located on the flat top of a north-to-south trending lobe projecting from a larger west-to-east trending ridge complex. Vegetation on the site is sparse grass. The site area is on weathered silt stone cap rock and has no soil accumulation. Cultural material observed consists of about 45 primary and secondary flakes, two cores and a tested cobble, all of porcellanite. No formal tools, FCR or features were noted. The site area has little soil and little chance of a subsurface component.

24PR2322 - 20W2

Legal Location: T4S R45E, CNWNWSENE Section 20 (Irregular section: NE corner used to align template)

Elevation: 3300 feet (1006 m)

Cultural Period: Prehistoric

Site Type: stone rings, lithic scatter

Description: The 30 m north-south by 55 m east-west site consists of three stone rings and three artifacts located on the flat top of a large west-to-east trending ridge complex. Feature 1 (8 m at 138 degrees) is a 4.35-m diameter stone ring made of 28 sandstone and scoria rocks. Feature 2 (10.5 m at 204 degrees) is a 3.5-m diameter stone ring made of 31 sandstone and scoria rocks. Feature 3 (17 m at 318 degrees) is a 3.5-m diameter stone ring made of 32 sandstone and scoria rocks. Artifact A1 (38 m at 121 degrees) and Artifact A2 (22 m at 260 degrees) are stage I porcellanite bifaces. One porcellanite flake was also observed.

24PR2323 - Clark Homestead - East

Legal Location: T4S R45E, SWNESESW, SENESESW Section 20 (irregular section, SW corner used with template)

Elevation: 3231 feet (984 m)

Cultural Period: Prehistoric

Site Type: Frank Clark homestead (western complex)

Description: The 85 m east-west by 85 m north-south site is located along Newell Creek, an ephemeral tributary of Otter Creek. It appears to have been the earliest incarnation of a homestead patented on December 29, 1916 by Frank S. Clark (Accession no. 1023886, BLM Serial No. 0024859). The site is historically linked to a later occupation located about 350 m to the west in the same drainage (both properties are within the legal description of the Clark homestead patent). The site consists of a small dugout, a building depression, an earthen dam, an old farm implement and a few artifacts. The land surrounding the site has been cultivated in the distant past. Feature 1 is the remains of a dugout 15 ft by 15 ft by 5 ft deep, with an opening on the east side. Feature 2 is a building depression 10 ft by 10 ft by 1 ft deep located 25 m west of Feature 1. A small, breached earth dam is located on a side coulee, 35 m south of Feature 1. Artifacts observed include two horseshoes, decorative white ware fragments, a barrel hoop and a piece of purple glass near Feature 1, and a single bottom plow 70 m at 22 degrees from Feature 2. Part of a cast iron stove lies in Feature 2.

24PR2324 - Clark homestead - West

Legal Location: T4S R45E, NWSWSW, WNESWSW Section 20 (irregular section, SW corner used with template)

Elevation: 3280 feet (1000 m)

Cultural Period: Prehistoric

Site Type: Frank Clark homestead (western complex)

Description: The 220 m east-west by 95 m north-south site appears to have been occupied, at least on a seasonal basis, until destroyed by fire in 2002. The burned remains include both historic (1920s-1950s) ranch / homestead elements as well as modern artifacts and structures located on the Newell Creek drainage. Historically, this property is linked to an earlier occupation located about 350 m to the east in the same drainage. Both sites are located on land patented on December 29, 1916 by Frank S. Clark (Accession no. 1023886, BLM Serial No. 0024859). It appears that the burned complex was a later, maybe 1930 or 40s, reconstruction of the property. The eastern site consists of small dugouts and building depression, whereas concrete footings and electrical service were used in the western complex. Historic materials at the western complex include draft horse tack, wagon parts, vintage 1940s clothes washer, tractors and other implements. Obviously modern elements such as a burned aluminum camp trailer were also present.

Feature 1 is a partially collapsed 24 by 16 ft frame garage with a gabled roof, the only unburned structure on the site. The northwest corner of the garage was used as datum for mapping purposes. Feature 2, 30 m at 274 degrees, is a burned structure with 12 by 24 ft concrete footings. It was a frame structure, possibly a storage shed, and had corrugated metal roofing. Feature 3, 39 m at 288 degrees) was probably the main residence. The structure is defined by 22 ft by 30 ft concrete footings. It was a frame structure and also had corrugated metal roofing. The interior of Feature 3 contains domestic items such as kitchen wares and a vintage 1940s clothes washer. Feature 4, 42 m at 312 degrees has a

20 ft by 12 ft concrete block foundation. It may have been a cabin or bunkhouse. Interior artifacts include a vintage 1940s clothes washer and a wood stove. A shed addition may have been attached to the north side. Feature 5, 65 m at 310 degrees, was an 8 ft by 8 ft privy that sat on concrete footings. Feature 6, 63 m at 308 degrees, is also a privy similar to Feature 5. Feature 7, 132 m at 314 degrees, was a barn, roughly 12 ft by 32 ft, with sandstone slab footings. The remains of a horse training corral extends to the east end of Feature 7. Feature 8, 136 m at 316 degrees, was a stable or tack shed. It was roughly 15 ft by 32 ft and had concrete and sandstone rubble footings. Harness parts for draft horses, horse shoes and carriage harness parts are among the artifacts observed within Feature 8. Feature 9 was a small shed located 214 m at 304 degrees from datum. Feature 10 is a sandstone-lined, hand dug well about 25 ft deep located 45 ft west of the privies. Feature 11 is a small “Butler” style corrugated tin granary.

Numerous domestic / ranch related artifacts, all burned, are present at the site. Temporally diagnostic in terms of establishing the earliest occupation of the site, are (besides the tack previously mentioned): a 1940s Farmhand Tractor converted into a hay stacker; a horse-drawn wagon chassis; a 1940s-1950s Allis-Chalmers tractor; a PTO-driven spreader, “The Prairie Hopper;” a tractor drawn land leveler and a three-bottom plow. As mentioned, several modern artifacts and an electric well and stock tank are also present indicating a continuum of use of the property.

Section 22, T4S 45E

24PR31

Legal Location: T4S R45E, NWNENENE Section 22

Elevation:

Cultural Period: Prehistoric

Site Type: lithic scatter

Description: The 20 m north-south by 60 m east-west site consists of a diffuse scatter of porcellanite debitage and a small cairn located on a high, narrow knoll on an east-to-west trending ridge on the east side of the Otter Creek Valley. Vegetation on the site is sparse grass. The site area is on weathered cap rock and has no soil accumulation. The site was recorded by Carl Davis (1975) and re-recorded by G. Rollefson, et al. (1980). Cultural material observed includes a small cairn of sandstone slabs resting on weathered cap rock, and a scatter of about 30 primary and secondary flakes of porcellanite. The previous recorders collected a few biface fragments. No formal tools, FCR or features were observed. The site appears as previously described. A new datum, photographs, refined legal location and GPS point were made during the current project. The site appears to be a lithic reduction station and has no potential for yielding additional archaeological information because the artifacts are in a collapsed condition with no contextual integrity.

24PR593

Legal Location: T4S R45E, NESEWNNE, SWNENE, WSENE, NENWSENE Section 22

Elevation: 3142 feet (957 m)

Cultural Period: Prehistoric

Site Type: campsite, lithic scatter

Description: The 125 m north-south by 235 m east-west site is located on a east-to-west trending ridge on the east side of the Otter Creek Valley. The site is bordered on the north by an unnamed arroyo. Otter Creek passes within 150 m of the sites southwest edge. Vegetation on the site is sparse grass and sage. The site was originally recorded by G. Rollefson, et al., in 1980, and is listed as “NRHP Eligible by the Keeper.” One shovel probe was placed (at an uninformative location on the highest landform) in 1980 and proved negative. It is not clear why the site was determined eligible by the Keeper on that basis. However, a McKean Complex component seems to be eroding from a subsurface deposit on the terrace portion of the site (around the A1 area) and this area should be tested, including a gradiometer survey. The site area was expanded during the current project. A new datum was established (no original datum was found), GPS locations were made, and the site was photographed during the current investigation. Cultural material observed in 2004 include about 200 pieces of porcellanite debitage, oxidized sandstone and a Middle Plains Archaic (Duncan type) projectile point eroding out of a heavy calcium carbonate horizon in a terrace edge on the site’s southwest side. A veneer of porcellanite debitage is found scattered over the higher landform, but is probably surficial, as indicated by the shovel test conducted in 1980.

24PR595

Legal Location: T4S R45E, NWNENENE Section 22 (highly irregular section)

Cultural Period: historic

Site Type: homestead

Description: The George H. West homestead has been fully described and the basic research has been conducted by the previous recorders (Roffefson, et al. 1980). This update found the site essentially as described. A GPS location was made, and the site was re-photographed.

24PR597 - G2

Legal Location: T4S R45E, SENWSW Section 22 (irregular section- template aligned on west boundary and southwest corner of section)

Elevation: 3140 ft

Cultural Period: Prehistoric

Site Type: stone ring, cairns, lithic scatter

Description: This site was apparently first recorded in 1980 during a Class III cultural resource inventory by G. Rollefson, N. Eide and G. Johnson. The site was described as consisting of "...two stone rings and associated lithics on two spurs separated by a small, shallow, but steep, unnamed, dry drainage. The northern ring (3a) is the smaller..." Two sketch maps are included with the site form. Each sketch map shows a stone ring, one east and one west of a telephone line. Two test units were dug, neither of which yielded cultural material. The site was later determined to be eligible for the NRHP by the Keeper of the NRHP (Murdo 2004, Bryant et al. 1980).

During the current fieldwork, the site was found to consist of up to two cairns, one stone ring and a scant lithic scatter occupying a crescent shaped area measuring about 110 m northwest-southeast by 85 m southwest-northeast. The site is situated on a pair of bench lobes overlooking the valley of Otter Creek, which lies about 200 m to the east. Otter Creek is a perennial tributary of the Tongue River. Vegetation consists of mixed grasses, forbs, sage, prickly pear cactus and juniper. Surface visibility was relatively poor, around 20 percent. Soil consists of sandy and gravelly loam, and the depositional/erosional situation appears stable to mildly erosive. The site affords an excellent view of the nearby Otter Creek valley.

The two cairns (Features 1 and 3) were found within about 13 m of each other on the southern bench lobe. The northern lobe, which seems to be the reported location of one of the stone rings in 1980, contains hardly a stone. The ring that was found (Feature 2) is west of a telephone line and probably corresponds to that shown in a similar location on the 1980 sketch map.

Feature 1 (9 m at 174°) is a well-defined ovoid cairn consisting of 10 or more scoria stones arranged in a single layer and oriented at about 167°. The feature measures about 90 cm wide by 110 cm long. The largest stone, which measures about 35 cm across, may be in its natural position with the other stone gathered around it.

Feature 2 (97 m at 296°) is a moderately defined stone ring constructed of 28 or more stones with interior dimensions of about five meters east-west by four meters north-south. Four stones are scattered within the interior portion, and there is a cluster of three stones on the southeastern perimeter. See also the attached Ring Attribute Form.

Feature 3 (6 m at 284°) consists of a cluster of three stones arranged in linear fashion and measuring about 30 by 80 cm. The center stone is probably in its natural position.

Observed artifacts include approximately 10-15 gray porcellanite primary, secondary and shatter flakes. They are thinly distributed throughout the site, but most were found on the southern bench lobe.

24PR2325 - 22B46

Legal Location: T4S R45E, ESWSWSW Section 22 (irregular section- template aligned on southern boundary and SW corner)

Elevation: 3140 ft
Cultural Period: Prehistoric
Site Type: lithic scatter, cairn

Description: The site consists of a cairn surrounded by a sparse lithic scatter measuring about 80 m southwest-northeast by 30 m northwest-southeast. The site is situated on the summit of a broad finger ridge that divides Newell Creek and another unnamed ephemeral tributary of Otter Creek, a perennial tributary of the Tongue River. Newell Creek lies about 300 m to the north and Otter Creek lies about 750 m to the east. Onsite vegetation consists of prairie grasses and prickly pear cactus. Sediments consist of pale brown sand loams. The site vicinity appears stable or only slightly erosive. Surface visibility was about 35%. The site affords excellent views of the nearby stream valleys and adjacent uplands.

Observed cultural manifestations include one cairn and 20+ primary and secondary flakes of red, light gray and dark gray porcellanite. No tools were observed. The cairn (Feature 1- 2.2 m at 156°) measures about 90 cm north-south by 100 cm east-west and consists of nine scoria stones arranged in a single layer. The feature appears approximately 85 percent exposed.

24PR2326 - 22B47

Legal Location: T4S R45E, ESWSESW, NWSWSESESW Section 22 (irregular section-template aligned on southern boundary and SW corner)
Elevation: 3080 ft
Cultural Period: Prehistoric
Site Type: lithic scatter, possible camp

Description: The site is manifested on the surface as a sparse lithic scatter measuring about 130 m northwest-southeast by 65 m southwest-northeast. The site is situated on a high terrace about 400 m west of Otter Creek, a perennial tributary of the Tongue River. Benchlands to the west and northwest provide a modicum of protection from prevailing winds. The Otter Creek Road, a paved two lane highway, lies about 30 m east of the site. Onsite vegetation consists of prairie grasses, prickly pear cactus and low sage. Sediments appear to be mainly sand loam. The terrace surface appears stable or only mildly erosive. Surface visibility was relatively poor at about 35%. The site vicinity affords excellent views of the creek valley. The site is bisected by a two track road that leaves the highway and proceeds up onto the terrace.

Observed cultural material consists of 14 porcellanite flakes, a porcellanite scraper and a porcellanite modified flake. The flakes were observed in two clusters at the north and south ends of the site. The clusters are about 118 m apart. The scraper was observed about 72 m west-northwest of the southern flake cluster. The site's relatively sheltered location on a high terrace of Otter Creek suggests the possibility of buried activity areas not manifested on the surface.

24PR2327 - G53

Legal Location: T4S R45E, NSWNWSW, SSNWNWSW Section 22 (irregular section-template aligned on west boundary and southwest corner of section)

Elevation: 3160 ft

Cultural Period: Prehistoric

Site Type: stone rings, lithic scatter

Description: The consists of at least two stone rings and a scant lithic scatter occupying a triangular area measuring about 130 m north-south by 140 m east-west. The site is situated on a bench lobe and gentle southern slope overlooking Newell Creek, an ephemeral tributary of Otter Creek. Newell Creek lies about 140 m to the south. Otter Creek is a perennial tributary of the Tongue River that lies about 400 m to the east. Onsite vegetation consists of sparse grasses, forbs, sage, prickly pear cactus and one small juniper. Surface visibility was excellent, between 80 and 90 percent. Soil consists of sand loam and sand with copious amounts of clinker gravel. The depositional/erosional situation is stable to mildly erosive. The site affords an excellent view of the nearby Newell Creek valley.

The stone rings were found within about five meters of each other. In addition, an area to the south of the features contains a confused array of stone clusters, many if not all of which are simply natural. However, they could represent the remains of disturbed features. Both of the identified rings are shallowly buried. See also the attached Ring Attribute Form.

Feature 1 (27 m at 326°) is poorly to moderately defined, roughly circular, and is constructed of 25 or more stones with an interior dimension (ID) of about four meters. The feature appears complete or nearly so. In addition, in the approximate center of the ring is a yellowish inclined scoria stone that might be the surface manifestation of a buried stone lined pit hearth.

Feature 2 (23 m at 344°) is poorly to moderately defined and roughly circular, but probably only about 1/3 complete. The feature is constructed of 15 or more stones with an ID of about three meters and is oriented east-west. No sign of any associated feature was observed.

Observed artifacts include approximately 5-10 gray porcellanite primary and shatter flakes. They are thinly distributed throughout the site.

24PR2328 - 22W2

Legal Location: T4S R45E, NENENWNE Section 22

Elevation: 3140 feet (957 m)

Cultural Period: Prehistoric

Site Type: lithic scatter

Description: The 65 m north-south by 80 m east-west site consists of a diffuse scatter of porcellanite debitage located on a high, flat-topped knoll at the end of an east-to-west trending ridge on the east side of the Otter Creek Valley. Vegetation on the site is sparse grass. The site area is on weathered cap rock and has no soil accumulation. Cultural material observed includes about 30 primary and secondary flakes of porcellanite, a fragment of a stage I biface and two cores. No formal tools, FCR or features were observed. The site appears to be a lithic reduction station and probably has no potential for yielding additional archaeological information, because the artifacts are in a collapsed condition with no contextual integrity.

Section 24, T4S 45E

24PR583 / 24PR585 / 24PR586

Legal Location: T4S R45E,SWNWNE, SENENW, NENWSENW, NWNESENW

Section 24

Elevation: 3505 ft (1068 m)

Cultural Period: Prehistoric

Site Type: lithic scatter, prehistoric rockshelter and historic graffiti

Description: The 240 m north-south by 460 m east-west irregularly shaped site area includes three previously recorded lithic scatters, as well as a rock shelter and historic graffiti panel discovered in 2004. The site is located on top of a large ridge complex that trends from east-to-west. The timbered ridge has several lobes and sandstone outcrops within the site area. There is heavy grass cover on most of the site and surface visibility was low. The previous site records incorporated into this one large site are: 24PR583, 24PR585 and 24PR5856 (Rollefson 1980). All of these were described as small lithic scatters. Cultural material observed in 2004 include a rockshelter with a historic graffiti component bearing several cattle brand symbols, the dates “1918”, “1950” and “1975,” the names “Neil” and “Harry Allen 1960” and the initials “E.L.S.”, “LCL 7/11/21” and “B.B.H. 1908.” Also in and around the rockshelter area are several discrete piles of lithic debitage, obviously piled by artifact collectors. Debitage is also scattered over the saddle area near the shelter. Several lithic tools were observed in this area. Tool A1 (20 m at 275 degrees), is a large projectile point preform made of porcellanite. Tool A2 (50 m at 110 degrees), is a stage III biface made of porcellanite. Tool A3 (55 m at 105 degrees), is a large unifacially modified flake of porcellanite. Tool A4 (50 m at 102 degrees), is a large, thick projectile point medial fragment, probably a Middle Plains Archaic type, also made of porcellanite. Generally across the site several hundred porcellanite primary and secondary flakes were observed, including six “collector’s piles.” Several non-porcellanite flakes including Knife River Flint, agate, red chert and brown chert were observed. A total of 14 early stage biface fragments were noted as well.

24PR590

Legal Location: T4S R45E, SESWSWNE Section 24

Elevation:

Cultural Period: Prehistoric

Site Type: lithic scatter

Description: The 25 m north-south by 45 m east-west site area is located on a narrow, eroded spine that extends from a larger, generally north-to-south trending ridge. The site was originally recorded by Rollefson (1980), who described the site as "severely eroded." The site area is largely exposed weathering cap rock and residual gravel. The current project relocated the site, established a new datum, photographed the site and added this updated form with refined legal location and UTM's. Artifacts observed include about 15 primary and secondary flakes of porcellanite. The site has no possibility of an intact archaeological context. No further work is recommended.

24PR1061 / 24PR591 - Noralee Site

Legal Location: T4S R45E, NENESESE Section 24 and T4S R46E WSWNWSWNW Section 16

Elevation: 3480-3500 ft

Cultural Period: Prehistoric

Site Type: lithic scatter

Description: This site was probably first recorded in 1973 by Michael R. Beckes of the U.S. Forest Service. Only the most rudimentary locational information is included on the site form, and only a crude location/sketch map. The site was described as a "heavy scatter of lithic debris, including projectile points, cores, scrapers, chipping debris, etc". Collected items included "1 lg. ovoid knife, 2 blade fragments, 1 round knife, chipping debris". Additional description of the site is found in Mclean (1975 and 1976).

During the current investigation, only flakes were found. These include perhaps thousands of porcellanite flakes and one brown chalcedony shatter flake (6 m at 20°). Nothing was collected. The site occupies an area measuring about 90 meters long by a maximum of 55 meters wide. The site is situated on a finger ridge summit, and extends from an open area at the summit terminus to a saddle to the east. The site overlooks Fortune Spring, which lies about 220 m to the southwest in an ephemeral tributary of Otter Creek, a perennial tributary of the Tongue River. Based on pin flag probing, soil appears to consist of a thin layer of loamy sand and gravel overlying clinker or sandstone bedrock. In pockets, soil deposition may be as deep as 15 cm. Vegetation consists of very sparse bunch grasses, yucca, juniper and ponderosa pine. The site vicinity affords varying views of the nearby ephemeral drainage to the west and south. Distant uplands can be seen for a considerable distance. The view to the north and east is generally restricted due to tree cover. The site is probably either stable or slowly deflating. Surface visibility averaged in excess of 90%.

24PR1062

Legal Location: T4S R45E, NSENESE Section 24

Elevation: 3460-3500 ft (1055-2067 m)

Cultural Period: Prehistoric

Site Type: lithic scatter

Description: This site was probably first recorded in 1973 by Michael R. Beckes. The site was described as a "moderate to heavy lithic scatter". Collected items included "1 side scraper, 1 core, 3 utilized flakes, debris". Additional description of the site is found in Mclean (1975 and 1976).

The site is situated on the summit and flanks of a sandstone monolith that lies on a forested finger ridge. The site overlooks an ephemeral drainage that contains Fortune Spring, which lies about 380 m to the south-southwest. The ephemeral drainage empties into Otter Creek, a perennial tributary of the Tongue River. Based on pin flag probing, soil appears to consist of a very thin layer (less than five centimeter thick) of reddish-brown loamy sand overlying clinker or sandstone bedrock. Soil deposition may be deeper in pockets. Vegetation consists of very sparse bunch grasses, yucca, juniper and ponderosa pine. The site vicinity affords varying views of the surrounding country. The view is most extensive to the west and northwest, over the nearby ephemeral drainage. Distant uplands can be seen for a considerable distance. The view is generally restricted by tree cover or higher terrain to the east, north and south. The site is eroding and deflating. A thin scatter of flakes found at the base of the monolith probably eroded from the top. Surface visibility averaged in excess of 90%.

Observed cultural materials include an estimated several thousand porcellanite flakes, one flake of reddish chalcedony, approximately 10 porcellanite core fragments, and six chipped stone tools. The site occupies an area measuring about 35 by 65 meters.

Observed tools include: A1 (3 m at 316°)- a unifacially modified flake of purple porcellanite; A2 (16 m at 64°)- a large Stage II biface of purple porcellanite; A3 (24 m at 115°)- a unifacially modified flake of Yellowstone Agate; A4 (26 m at 94°)- a purple porcellanite stage II biface fragment; A5 (1.75 m at 188° from A2)- a large gray porcellanite stage II biface fragment; A6- (5.5 m at 335°)- a brown porcellanite beveled knife fragment (photographed). Nothing was collected.

24PR1063 / 24PR1199 Fortune Spring Site Complex

Legal Location: T4S R45E, SSESE, SNWSESE, SWSWNESESE Section 24 and T4S R46E, SWSWSWNW Section 19

Elevation: 3300 feet (1006 m) to 3400 ft (1036 m)

Cultural Period: Prehistoric

Site Type: campsite complex

Description: The extremely complex site area is about 430 m east-west by 300 m north-south. The site complex is centered around the upper Fortune Spring drainage, which contains many small seeps, even during the severe drought of 2004. It lies on BLM land, but the Custer National Forest apparently leases or once leased the west half of the section (containing this site). Previously recorded sites 24PR1063 (Beckes 1973); and 24PR1199 (Knight, McClean and Keyser 1974) were connected into one large site after examining the area in 2004. The early site forms have vague legal descriptions and not-to-scale sketch maps so determining their precise boundaries was not really possible. The approximate locations are shown on the 2004 sketch map. Neither of the original site data could be found in the field. Numerous tools were collected (in uncontrolled manner) during the initial recordings. Collected by Beckes (1973) were “three large biface choppers, 6 round knives, 1 end scraper, 2 side scrapers, 9 utilized flakes/blade fragments, 1 awl, 2 triangular projectile points, 1 drill, 3 bifacially worked blades, [and] 1 agate knife.” Knight, McClean and Keyser (1974) collected, “scrapers, flakes, projectile point tip, [and a] corner-notched projectile point.” Beckes (1973) called the site “the greatest concentration of artifacts I have yet seen in the [Custer] forest.”

Currently, the partially developed Fortune Spring lies a couple hundred meters downstream (northwest) but it appears that the spring has migrated up and down the drainage over time and several small seeps are present. The observed cultural material lies on several lobes and terraces around a confluence of several tributaries at what is probably the upper limit of the spring. Two hearths are exposed at the site. Feature 1 (3 m at 270 degrees from the 2004 datum) is a fully deflated hearth characterized by a cluster of 20 oxidized sandstone slabs. Feature 2 (412787 Easting, 5035626 Northing) is a partially exposed hearth characterized by a 40 cm diameter circular cluster of oxidized slabs located on the sloping side of a ridge. Its location precluded line-of-site mapping. Artifacts observed in 2004 include two large stage III bifaces A1 (55 m at 60 degrees) and A2, (77 m at 56 degrees), a proximal fragment of a large point preform, (A3, 80 m at 56 degrees); a large (Archaic Period) projectile point medial fragment (A4, 120 m at 182 degrees); and three more large porcellanite stage III bifaces A5-A7 (50 m at 300 degrees). Clusters of debitage were observed in several concentrated areas on separate landforms around the confluence. Several hundred flakes, all porcellanite, are exposed on the surface. A high ridge at the southwest corner of the site (the 24PR1063 area) contains an intense scatter of debitage eroding out of the edge of the ridge spine, indicating a small but heavy deposit of buried cultural material. Terraces along the drainages (24PR1199 area) also contain evidence of subsurface deposits, where flakes are exposed in eroding terrace margins. A few bison bones of possible cultural association are also exposed in the cut banks of the main drainage. The site likely has several archaeologically significant locales. Testing will be required to fully define these areas. McLean (1976:60-61) conducted three test pits at the 24PR1199 area with negative results.

24PR2329 - 24B35

Legal Location: T4S R45E, SWSWSWSWNW Section 24

Elevation: 3360 ft

Cultural Period: Prehistoric

Site Type: lithic scatter, possible groundstone

Description: The site consists of a small but dense lithic scatter and a possible small sandstone metate and measures about 22 m north-south by 26 m east-west. The site is situated on a low bench lobe adjacent to an unnamed ephemeral tributary of Otter Creek. Otter Creek is a perennial tributary of the Tongue River, and lies about 2.25 km to the southwest. The unnamed tributary is about 50 m to the southwest. Local vegetation includes prairie grasses, sage, and prickly pear cactus. Sediments appear to consist of pale brown sand loams. The vicinity appears moderately to heavily eroded. Surface visibility was about 50%. The site affords good views of the ephemeral stream valley and surrounding uplands.

Observed cultural material consists of one porcellanite Stage I biface fragment (A1- 8 m at 46°), one possible small metate made from a lozenge shaped piece of sandstone (A2- 13 m at 296°), five porcellanite primary flakes, 20-30 porcellanite secondary flakes, 20-30 porcellanite tertiary flakes, and one agate secondary flake. The possible metate is broken transversely across the approximate middle; the two fragments were found adjacent to each other.

24PR2330 - 24B37

Legal Location: T4S R45E, NSESWNW Section 24

Elevation: 3360 ft

Cultural Period: Prehistoric

Site Type: lithic scatter

Description: The site is a small but dense lithic scatter measuring about 18 m across. The site is situated on a narrow finger ridge lobe overlooking an unnamed ephemeral tributary of Otter Creek. Otter Creek is a perennial tributary of the Tongue River, and lies about 2.5 km to the southwest. The unnamed tributary is about 350 m to the southwest. Local vegetation includes prairie grasses, sage, ponderosa pines and junipers. Sediments appear to consist of sandy and gravelly loams. The area is heavily eroded. Surface visibility was in excess of 50%. The site affords good views of the ephemeral stream valley and surrounding uplands.

Observed cultural material consists of 50+ porcellanite flakes and one brown chalcedony chert biface fragment (A1- 14 m at 300°).

24PR2331 - 24D32

Legal Location: T4S R45E, SWSESESW Section 24

Elevation: 3200 ft (975 m)

Cultural Period: Prehistoric

Site Type: campsite complex

Description: The 90 m north-south by 65 m east-west lithic scatter is located on a lobe-shaped terrace along the ephemeral drainage that drains southwesterly from Fortune Spring, a perennial spring. The surface of the terrace is covered with dense grass and sagebrush and has low visibility. Cultural material observed consists of 40 to 50 porcellanite flakes and two late stage bifaces exposed along a cut bank on the south and west sides of the lobe. The 2-m high cut bank has an obvious cultural deposit at approximately 25 cm below current ground surface where the debitage is seen *in situ* in the cut bank wall. The bifaces, A1 (6.5 m at 262 degrees) and A2 (7 m at 346 degrees) are large, late stage blades, possibly knives or projectile point preforms. All of the observed lithics are porcellanite. A few flakes were observed on top of the terrace landform and along its margins to the north and south. Soil development is likely and the majority of the landform is stable to slightly depositional. Testing will be required to see if the site has archaeologically significant content (i.e., hearths and activity areas and not just scattered debitage).

24PR2332 - 24D34 Fortune Cabin

Legal Location: T4S R45E, NENWNENESE Section 24

Elevation: 3224 ft (983 m)

Cultural Period: Prehistoric

Site Type: campsite

Description: The 10 m north-south by 15 m east-west site area is an arbitrary buffer around a single historic structure. The site consists of a partially dug-out shelter located at the head of a grassy coulee between two prominent sandstone-capped, forested ridges. The 15 ft north-south by 10 ft east-west structure incorporates log walls supported by vertical posts, on the east and west sides. The logs in the east and west walls are from 5-7 inches in diameter. Stacked sandstone and earth fill is on the outside of the logs. The north wall is earth (excavated into the slope), while the south wall is made of ten-inch diameter logs stacked 4 high. The maximum height of the walls is 55 inches. There is no sign of roof rafters, or of any provision for gables, so a flat, sod roof is presumed. Round wire nails were used in the frames of two window openings on the south wall. The window frames and a doorframe on the southeast corner are of rough-sawn lumber. No artifacts were found in association, except for a piece of light gauge pipe, 6 inches in diameter, that is firmly fixed in the floor of the structure.

Local rancher Ross Denson related that the cabin was built by a man named Fortune (for which the nearby Fortune Spring is named) who had squatted in Section 24, intending to file a homestead claim on the section. Fortune was working at the time for the previous owner of the Denson Ranch and was killed when he was kicked by a mule. His application was never filed, so the land remained in federal ownership. The GLO records office has no information about this structure.

24PR2333 - 24D36

Legal Location: T4S R45E, SENWSWSENE Section 24

Elevation: 3400 ft (1036 m)

Cultural Period: Prehistoric

Site Type: campsite

Description: The 20 m north-south by 10 m east-west lithic scatter is located on a small saddle area on a northeast to southwest trending finger ridge. Cultural material observed consists of 30 to 40 porcellanite flakes exposed on an eroded area of weathered shale and sandstone cap rock. There is little potential for a buried component, although pin flag probes indicate a few centimeters of soil in portions of the site.

24PR2334 - G38

Legal Location: T4S R45E, NSENWSE, SNENWSE, Section 24

Elevation: 3260 ft

Cultural Period: Prehistoric

Site Type: camp

Description: The site is a buried campsite occupation occupying an area measuring at least 75 by 90 meters. The site is situated at the confluence of two ephemeral streams within an open valley surrounded by forested uplands. A small spring (part of the Fortune Spring system), which currently feeds a stock tank, is located in the stream channel immediately south of the site. In addition, natural seeps at Fortune Spring are located about 420 meters to the southeast. The stream drainage empties into Otter Creek, a perennial tributary of the Tongue River. On-site vegetation consists of sparse grasses, sage, yucca and juniper, with nearby stands of ponderosa pine. Sediments, which appear to consist largely of sand loams, extend to a considerable depth. Cultural material was observed in the cut banks at depths of between 55 and 130 cm below the surface. The site vicinity affords a good view of the stream valley and adjacent uplands. Surface visibility ranged widely, but averaged perhaps 50%.

Observed cultural material consists of two hearth features (Features 1 and 2), a Late Archaic corner notched projectile point fragment (A1), roughly 100 porcellanite flakes, at least one porcellanite core, and 11+ fragments of bone. The core, one of the hearths (Feature 2) and the bone fragments were all found in the stream cut banks. The rest of the material was found on the surface. Feature 1 (32 m at 282°) is a deflated hearth manifested on the surface as 40-50 small, exfoliated and oxidized fragments of sandstone clustered in an area measuring about 150 cm northwest-southeast by 100 cm southwest-northeast. Feature 2 (2 m at 148°) is manifested as an oxidized stain with adjacent particles of charcoal, and is exposed in the stream cut bank 102 cm below the surface. The oxidized stain measures 45 cm across by between three and seven centimeters thick. The particles of charcoal lie at the same depth and begin immediately to the west. The hearth is in imminent danger of collapse. The bone fragments were all observed in the cut banks at depths varying between 55 and 130 cm below the surface. They include

elements of a large mammal, probably bison, and consist of two vertebrae, a femur fragment, a possible skull fragment, and 7+ small bone fragments. Particles of charcoal were observed adjacent to one of the vertebra.

Although the site is actively eroding, the potential for intact and buried cultural deposits is high. In particular, the presence of intact hearths with dateable amounts of charcoal indicates a high potential to yield further information on local prehistory.

24PR2335 - G40

Legal Location: T4S R45E, SWNWNENE Section 24

Elevation: 3520-3530 ft

Cultural Period: Prehistoric

Site Type: lithic scatter

Description: The site is situated in a forest clearing on a ridge lobe northeast of a prominent hill summit. This uplands area forms a portion of the divide between the drainage of Otter Creek and one of its tributaries, Threemile Creek. Otter Creek is a perennial tributary of the Tongue River. The site occupies an area measuring about 20 m wide by 95 m long, and lies within the drainage of an unnamed ephemeral tributary of Threemile Creek. There are no reliable natural water sources within a reasonable distance. Soil appears to consist of sand loam, and may be fairly deep. Vegetation consists of sparse grasses, sage, and ponderosa pine. The site vicinity affords varying views of the surrounding country. The view is most extensive to the north, where nearby stream valleys and distant uplands can be seen. The depositional situation appears to be fairly stable. Surface visibility averaged around 50%.

Observed cultural materials include one gray porcellanite beveled knife fragment (A1-75 m at 186°), five porcellanite flakes, and two porcellanite core fragments. In addition, a gypsum crystal-apparently out of context and immediately adjacent to some flakes- was observed. Nothing was collected.

24PR2336 - 24W2

Legal Location: T4S R45E, SWNESWNE Section 24

Elevation: 3455 ft (1053 m)

Cultural Period: Prehistoric

Site Type: lithic scatter

Description: The 30 m diameter site area is located on a narrow, eroded spine that extends from a larger, generally north-to-south trending, pine-covered ridge. The site area is largely exposed weathering cap rock and residual gravel. Artifacts observed include about 35 primary and secondary flakes of porcellanite. The site has no possibility of an intact archaeological context. No further work is recommended.

24PR2337 - 24W3

Legal Location: T4S R45E, SWSESWNE Section 24

Elevation: 3400 ft (1036 m)

Cultural Period: Prehistoric

Site Type: campsite

Description: The 20 m north-south by 20 m east-west site area is an arbitrary boundary around a single hearth feature exposed in a vertical cut bank at the head of a small arroyo. The 2-m deep arroyo has been recently cutting and the hearth seems to have been only partially exposed. The setting would have been a small grassy basin between two sandstone-capped ridges, prior to the erosion. The hearth is exposed in the west facing wall of the arroyo about 63 cm below ground surface and consists of five oxidized sandstone slabs in a more or less level arrangement 87 cm wide, with flecks of charcoal evident around the slabs. A bone fragment and one secondary flake of porcellanite are also exposed in the cut bank at the same depth, adjacent to the hearth. The feature lies within a heavy calcium carbonate horizon.

24PR2338 - 24W4

Legal Location: T4S R45E, SWSWSWNWSE Section 24

Elevation: 3224 ft (983 m)

Cultural Period: Prehistoric

Site Type: campsite

Description: The 45 m north-south by 15 m east-west site area is located on a subtle ridge that extends from north to south, terminating on the bank of the unnamed ephemeral drainage that flows southwesterly from Fortune Spring. The site consists of a well-preserved, partially exposed slab-lined hearth and a small scatter of debitage. The hearth consists of the barely exposed tops of five large sandstone slabs in an 80 cm diameter circular arrangement. The slabs incline toward the center of the circular arrangement of feature, which also contains several pieces of sandstone FCR partially exposed in the sod. The hearth is located at the southern tip of the landform, 15 m north of the drainage channel. North of the hearth, along the top of the finger ridge, about 30 flakes of porcellanite were observed. The landform is well vegetated and may well contain additional buried hearth features.

Section 26, T4S R45E

24PR40 / 24PR42 / 24PR44 / 24PR46

Legal Location: T4S R45E, NENESW, NSENWSW, SWNWNWSE, SWNWSE, SSENWSE, NWSESWSE Section 26 (irregular section: south section line used with template)

Elevation: 3220 feet (981 m) to 3140 ft (957 m)

Cultural Period: Prehistoric

Site Type: lithic scatter

Description: The 1300 m northwest to southeast by 240 m northeast to southwest site occupies the length of a ridge that trends from southeast to northwest. Along this landform are numerous sandstone outcrops, blowouts and grass covered lobes and saddles. Cultural material is continuously exposed in a diffuse scatter, with several intensive exposures of cultural material, including six apparent rock shelters. The site area encompasses four previously recorded sites; 24PR40 (Johnson 1981, Davis and Loscheider 1975); 24PR42, 24PR44 and 24PR46 (Davis and Loscheider 1975). These vintage site forms have little useful information as they contain vague legal descriptions, lack sketch maps or USGS maps, and report extensive (uncontrolled) collection from the site(s) area by the recorders. The entire site complex is herein re-recorded. For purposes of mapping, several datum stations were constructed (see UTM points and site sketch map).

Station 24PR40 Area:

Starting from the northwest end of the ridge, which passes about 200 meters from Otter Creek, There are three prominent grass and pine covered lobes and a grassy saddle with a few small sandstone outcrops and some exposed weathered shale. In this area was observed a broad lithic scatter, an eroded hearth and two lithic tools. Debitage in this area includes about 100 porcellanite flakes, one Knife River Flint secondary flake and a quartzite secondary flake. Tools include a quartzite cobble hammer stone or mano (8 m at 160 degrees from the 24PR40 station datum) and a stage II biface made of fine-grained quartzite (77m 170 degrees). Feature 1 is an almost totally deflated slab-lined hearth (20 m at 80 degrees). The hearth is 1.2 m in diameter and contains over 30 oxidized sandstone slabs over 30 cm in diameter. The slabs have slumped and are now mostly disarticulated. The feature lies on expose shales with minimal chance of deposition, but indicates the presence of the feature type at the site. The grassy saddle area south of this station has stable soils and high potential for buried materials. The southeast end of this area extends to a two-track road that bisects the ridge. Flakes are exposed in this road cut, indicating the presence of a buried component. A coal exploration drilling hole (Kennebec Energy No. 02C2645) lies adjacent, but outside of the site area.

Station 26W1 Area:

Station 26W1 begins southeast of the aforementioned two-track road and encompasses Rock Shelters (RS) 1, 2 and 3 and Artifact A2, a small (Late Prehistoric Period-sized) projectile point preform fragment. RS 1 is located under a 2.5-m high overhang on the west side of the uppermost ledge of the sandstone outcrop. It contains an artifact collector's pile ofdebitage on the surface containing 22 porcellanite flakes as well as scattered FCR. A 20 m by 50 level grass covered "shelf" in front of (west of) RS1 is a high potential area for buried cultural material. RS2 also opens to the west, but is on the lower outcrop, about 15 m west of RS1. No cultural material was observed on the surface within RS 2 but substantial vegetation covers the shelter and significant deposition is likely. RS3 lies about 30 m to the southeast of RS1 and opens to the east. An amber-colored chert flake was found in RS3, which is also mostly obscured by vegetation. Several flakes are scattered in this area, including some small flake piles indicating substantial past surface collection. A few non-porcellanite materials were noted,

including chert, quartzite and Knife River Flint. A two-track road (not shown on the USGS map) bisects the ridge at the southeast end of the Station 26W1 area.

Station 26W2 Area:

Station 26W2 begins south east of the two-track road and includes an outlying outcrop containing RS4 and Feature 2. RS4 is located on the east-northeast end of the outcrop. It is 2 meters wide by 0.7 meters deep by 1.4 meters high. The shelter is likely to have substantial deposition and is mostly obscured by vegetation. Feature 2 is a partially exposed slab-lined hearth (see photo). It is located on the southeast end of the outcrop and is outlined by oxidized sandstone slabs. A scatter of at least 25 porcellanite flakes is scattered around the hearth.

Station 24PR44 Area:

Station 24PR44 lies 150 m east-northeast of Station 26W2 and includes a higher, sparsely timbered spine on the parent ridge that contains an outcrop with Rock Shelter 5 on its southwest side. Scattered debitage, along with three formal tools were observed. The tools include A3 (9 m at 0 degrees from the station), a unifacially modified flake of porcellanite; A4, a late Archaic corner-notched projectile point of maroon porcellanite, (47 m at 318 degrees); and A5 (130 m at 168 degrees), a gray porcellanite end scraper. RS5 is 2 m deep by 24 m long by 2 m high. A piece oxidized sandstone FCR was observed in RS5, along with five porcellanite flakes. Porcellanite debitage is scattered along the ridge spine in this area. The surface of the ridge is obscured by vegetation and has low visibility, but at least 30 flakes were noted in this area. The view from this ridge is expansive.

Station 24PR42 Area:

The Station 24PR42 area lies about 150 m southeast of Station 24PR44 and 200 m east of Station 26W2. Station 24PR42 contains Rock Shelter 6, which faces southwest and lies just under and west of the station datum. A few flakes were observed on the surface in the shelter. Around the base of the sandstone outcrop that contains RS6 were observed seven lithic tools. Tool A6, (5.8 m at 136 degrees), is a large point preform fragment. Two stage I bifaces of gray porcellanite were found (A7, 40 m at 311 degrees) and A8, (48 m at 300 degrees). Tool A9, (44 m at 358 degrees) is an end scraper of gray porcellanite. Tools A10 and A11 are unifacially modified flakes of gray and red porcellanite, respectively (both at 13 m at 144 degrees). Thick grass obscures this area of the site, and flakes are visible almost wherever the ground surface can be seen. The debitage scatter extends southwest on two lobe-shaped finger ridges, almost to the drainage bottom about 140 m southwest of the station datum.

Station B44 Area:

Station B44 lies about 310 m southeast of Station 24PR42 at the southeast end of the site. This area lies on a more eroded surface with exposed weathered shale. Observed cultural material consists of a broad, diffuse scatter of debitage and a large sandstone metate (A12) located one meter east of the station datum.

24PR41

Legal Location: T4S R45E, SWSWNWSW, WSESWNWSW, NNWNWSWSW and NWNENWSWSW Section 26 (irregular section: SW corner used with template)

Elevation: 3127 feet (953 m)

Cultural Period: Prehistoric

Site Type: campsite, lithic scatter

Description: This site was previously recorded by Miles and Carlson (1975). The original site form lacks a specific legal location, a site sketch map, photographs and a USGS map of the site location. The site was identified from the 1979 landform and access description. A porcellanite “blade” and “several worked porcellanite fragments” were reported as collected from the site (Miles and Carlson 1975). The lithic scatter, as observed in 2004, has an area of about 75 m east-west by 50 m north-south. The site is located at the tip of an east-to-west trending lobe-shaped ridge that terminates on the west bank of Otter Creek. Otter Creek, a perennial water source, is about 150 meters southwest of, and 12 m below, this site. Lithic material, and a few bone fragments, are exposed along the eroded margins of the landform. Surface visibility is poor over much of the site area due to thick grass cover. About 40 porcellanite flakes, mostly primary reduction with some secondary reduction, were observed. Also found were a flaked graver tool made of chalcedony (A1, 27 m at 278 degrees from datum) and a flake of Knife River Flint (3 m at 152 degrees). No FCR was observed, however, due to the site’s location near the riparian zone of Otter Creek, it is possible that the site may have been a campsite. Most of the site’s area is stable and there is some soil development at the site. Testing is required to fully evaluate the significance of this site.

24PR43 / 24PR45 / 24PR48

Legal Location: T4S R45E, SESW Section 26

Elevation: 3180-3220 ft

Cultural Period: Prehistoric

Site Type: rock shelter camp

Description: From available information, this site appears to incorporate three sites recorded on July 7, 1975 by Loren Miles, Lisa Carlson, Mavis Loscheider, and Carl Davis, possibly under the auspices of the University of Montana. Only the most rudimentary locational information is provided, and there are no attached sketch maps or location maps. Legal locations are given only to two places (an area of 40 acres), and all are given the same legal location (SE1/4 SW1/4 of Section 26, T4S R45E). (However, the legal locations for sites 24PR43 and 48 are crossed out and corrected). Site 24PR43 is described as “Found on the southernmost edge of section in intermittent stream drainage, (with) sandstone overhangs...” Site 24PR45 is described as “...located in a small washout on bluff overlooking an intermittent stream in Section 26”. Site 24PR48 is described as “...located on a high pine and sandstone formation covered ridge...” It is further mentioned that “Just north of the bluff are some sandstone rock shelters with material found in and around it.” Site 24PR43 was probably recorded in the vicinity of the extreme southeastern portion of the current site, which lies in an area of sandstone

outcrops immediately north of the section line. Site 24PR48 was almost certainly recorded in the northwestern portion of the current site, which includes rock shelters with associated cultural material. Site 24PR4 could be anywhere within the 40 acre area, but probably was recorded in the central or eastern portion of the current site. "Gray obsidian" (in fact, probably vitreous porcellanite) was reported at site 24PR43, and "gray obsidian chips, (a) corner notched projectile point (?), and (a) large gray worked chip" were collected. Tool sketches attached to the form appear to depict a Late Prehistoric corner notched projectile point and a Late Archaic corner notched projectile point. Another apparent Late Prehistoric point is sketched and then crossed out (!). Collections from site 24PR48 included "1 chert thumbscraper, 2 porcellanite blade fragments", and observed artifacts included "flakes and chips of porcellanite and chert". However, artifact sketches attached to the form also include a "chert corner notched projectile point fragment" that appears to be atlatl sized. Site 24PR45 apparently included only biface fragments and flakes. "One blade fragment" was collected.

The site as recorded during the current investigation occupies an area measuring about 350 meters northwest-southeast by a maximum of 160 meters southwest-northeast (roughly 10+ acres). The site is situated on the summit and lobes of a low finger ridge studded with sandstone outcrops and monoliths. The finger ridge is thinly forested with ponderosa pines and junipers. The northwestern portion of the site includes sandstone scarps about six meters (20 ft) high and sandstone monoliths. The scarps define a large portion of the ridge summit. One monolith includes a rock shelter with cultural material that pierces completely through, and would offer quite good protection from the elements. Three chipped stone tools were found at the eastern entrance of this shelter. At least two other monoliths include shallow overhangs, one with observed cultural material (including a probable projectile point fragment- A2). The outcrops become generally lower toward the southeast but, in combination with tree cover, still provide quite good protection from precipitation and winds. The finger ridge divides ephemeral tributaries of Otter Creek, which lies about 460 meters to the west. Otter Creek is a perennial tributary of the Tongue River. Soil appears to consist mainly of sand or loamy sand, and is probably quite deep in places. The depositional erosional situation is quite varied, as is the aspect. At a minimum, pockets of deposition may be expected in the rock shelters. Vegetation includes very sparse bunch grasses, skunkbush sumac, prickly pear, yuccas, juniper and ponderosa pines. The site vicinity affords varying views of the surrounding country. The view is most extensive to the west and northwest, over the nearby ephemeral drainage. Distant uplands can be seen for a considerable distance. The view is generally restricted by tree cover or higher terrain to the east, north and south. A thin scatter of flakes found at the base of the monolith probably eroded from the top. Surface visibility averaged in excess of 90%. Evidence of possible flake piling by amateur collectors was observed near a blowout area in the central portion of the site.

For convenience and clarity, a datum and one mapping station were established, both in conspicuous places. The datum is located on a sandstone monolith in the northern portion of the site whose summit can be easily accessed from the south. This location provides a "bird's eye" view of a portion of the site. The mapping station is located in a flat open area in the south-central portion of the site.

Observed cultural manifestations include one possible deflated hearth (Feature 1- 52 m at 232° from datum), one purple porcellanite Late Prehistoric projectile point fragment (A1- 22 m at 14°), one dark brown porcellanite Stage IV biface fragment- a possible projectile point fragment (A2- 236 m at 269°), a large modified primary flake of porcellanite (A3- 1.75 m at 244° from A1), a gray porcellanite modified flake (A4- 1.75 m at 244° from A1), another gray porcellanite modified flake (A5- 19 m at 110° from Station I), an estimated several thousand (millions?) of porcellanite flakes of all stages, one tan quartzite secondary flake, and one primary flake of Yellowstone Agate. The two projectile point fragments (A1 and A2) were photographed with a digital camera. Nothing was collected. Feature 1 consists of a 20 cm diameter cluster of apparent sandstone FCR. The possible feature was found in a blowout near a small pile of flakes that may be the result of modern collecting activity.

24PR2339 - 26D38

Legal Location: T4S R45E, NWNESWNENW Section 26 (irregular section: SW corner used with template)
Elevation: 3114 feet (949 m)
Cultural Period: Prehistoric
Site Type: lithic scatter

Description: The lithic scatter site, as observed, has an area of about 30 m east-west by 20 m north-south. The site is located at the tip of a south-to-north trending finger shaped terrace remnant on the south side of a large, steeply incised arroyo that flows into Otter Creek about 500 meters to the west. Adjacent sandstone outcrops and pin flag probes suggest that there may be only 20 to 30 cm of soil overlying caprock on most of this landform. A very prominent sandstone outcrop lies 182 m due south of the site datum. Cultural material observed includes a distal fragment of a small, thin (probably Late Prehistoric Period) projectile point (2 m at 90 degrees from datum), two primary flakes, six secondary flakes and two tertiary flakes. All of the artifacts are porcellanite. The cultural material is eroding from the margins of the terrace

24PR2340 - 26D40

Legal Location: T4S R45E, SWSWNWSW, WSESWNWSW, NNWNWSWSW and NWNENWSWSW Section 26 (irregular section: SW corner used with template)
Elevation: 3172 feet (967 m)
Cultural Period: Prehistoric
Site Type: lithic scatter

Description: The crescent-shaped lithic scatter, as observed, has an area of about 110 m east-west by 150 m north-south. The site is located at the tip of an east-to-west trending lobe-shaped ridge that terminates on the west bank of Otter Creek. Otter Creek, a perennial water source, is about 75 meters west of, and 24 m below, this site. Lithic

material is found on two lobes at the west end of the ridge, as well as in the connecting saddle area. Lithic debitage is exposed along the eroded margins of the landform; surface visibility is poor over much of the site area due to thick grass. About 100 porcellanite flakes, mostly primary reduction with some secondary reduction, were observed. No tools or FCR were observed, however, due to the site's location near the riparian zone of Otter Creek, it is possible that the site may been a campsite. Most of the site's area is stable to slightly erosional, but there is some soil development in the central portion of the site. Testing would be required to fully evaluate the significance of this site.

24PR2341 - 26D42

Legal Location: T4S R45E, SWNENWNW Section 26 (irregular section: NW corner used with template)

Elevation: 3152 feet (960 m)

Cultural Period: Prehistoric

Site Type: lithic scatter

Description: The 150 m north-south by 60 m east-west site is located along the top of a narrow finger ridge that extends northward to the edge of a large arroyo. The unnamed, ephemeral drainage is severely eroded and smaller tributaries are cutting vertical-walled arroyos on the east and west sides of this finger ridge. Cultural material observed consists of an eroding hearth and about 35 porcellanite flakes, most of which are exposed on the eroded margins of the landform. The hearth (25 m at 180 degrees from datum) is characterized by six (disarticulated) oxidized sandstone slabs spilling out of a vertical cut bank on the eroded margin of the landform. Most of the site's area is probably completely eroded, but there is some stable soil in the central portion of the site. Testing would be required to fully evaluate the significance of this site.

24PR2342 - G44

Legal Location: T4S R45E, NENENESWSW Section 26 (irregular section- template aligned on southwest corner)

Elevation: 3180 ft

Cultural Period: Prehistoric

Site Type: lithic scatter, historic-modern graffiti, possible remnant or enigmatic petroglyphs

Description: The site consists of a panel of historic and/or modern graffiti and possible remnant or enigmatic prehistoric petroglyphs and a scant lithic scatter measuring about 19 m northwest-southeast by a maximum of eight meters north-south. The site is situated on a finger ridge at the terminus of an area of sandstone monoliths. The finger ridge divides unnamed ephemeral tributaries of Otter Creek, a perennial tributary of the Tongue River that lies about 400 m to the west. Vegetation includes sparse bunch grasses, yucca, skunkbush sumac, juniper and ponderosa pine. Based on pin flag probing, soil appears to consist of an approximate 20 cm thick layer of unconsolidated sands overlying

bedrock. The site is probably entirely deflated or nearly so on account of the general lack of vegetation. Surface visibility was about 90%. The site vicinity affords good views of the nearby ephemeral stream valleys and glimpses of the valley of Otter Creek.

The historic-modern graffiti includes primarily initials, presumably of individuals, and a 1970 date. Inscriptions include "TUE(?)__F. WILLIAMS", "VF" with a horizontal line over it, "M", "S.L.C.", "Cindy Copt_()", and "1970". In addition are an upside down "V" shape flanked by two diagonal slashes that could conceivably be prehistoric. These marks are separated slightly from the historic or modern initials and could be prehistoric, although the marks themselves are about as deep and well-defined as the graffiti. Observed artifacts consist of one gray porcellanite biface fragment (A1- 17.5 m at 326°), one gray porcellanite modified flake (A2- 12.5 m at 25°) and one gray porcellanite secondary flake.

24PR2343 - G46

Legal Location: T4S R45E, SSWSWSE Section 26 (irregular section- template placed on southeast corner)

Elevation: 3200 ft

Cultural Period: Prehistoric

Site Type: lithic scatter

Description: The site is a lithic scatter measuring about 65 m north-south by 80 m southwest-northeast. The site is situated on two low bench lobes overlooking an unnamed ephemeral tributary of Otter Creek, a perennial tributary of the Tongue River. Otter Creek lies about 900 m to the west and the ephemeral tributary lies about 90 m to the south. Soil appears to consist of a thin layer of sands and gravels overlying sandstone bedrock. Vegetation includes very sparse bunch grasses, yucca, juniper and ponderosa pine. Surface visibility was in excess of 90%. The site is probably entirely deflated or nearly so on account of the general lack of vegetation. The site vicinity affords partially obscured but relatively extensive views of the stream drainage and adjacent uplands.

Observed cultural materials include one maroon porcellanite modified flake (A1- 10 m at 128°), a gray porcellanite Stage II biface fragment (A2- 1.8 m at 190°), an estimated several hundred gray porcellanite flakes, and two red chert flakes. Nothing was collected.

24PR2344 - Victor B. Malvaney Homestead

Legal Location: T4S R45E, SESESESE Section 26

Elevation: 3180 ft

Cultural Period: Prehistoric

Site Type: homestead remains and an isolated flake

Description: The site consists of the probable remains of the Victor B. Malvaney homestead, which was patented in 1927. The site is situated on a gentle south slope

between a low finger ridge immediately to the north and an unnamed ephemeral stream about 80 m to the south. Local vegetation includes mixed grasses, prickly pear cactus, sage, yucca and scattered juniper. Soil appears to consist of sand loam. The site is probably slowly deflating. Because of tall grass, ground visibility was fairly poor, less than about 25 percent. The site vicinity provides an excellent view of the nearby stream drainage, and the low ridge provides a modicum of protection from northerly winds.

Observed cultural manifestations include two stone foundations (Features 1 and 2), fence remnants, a scatter of historic debris and one gray porcellanite secondary flake. Historic debris includes a mixed scatter of clear and amethyst bottle glass shards, a scatter of window glass, whiteware ceramic fragments, board fragments, and deteriorated can fragments. There is one standing fencepost to the northwest of Feature 1 and there are old down fenceposts along the line between Sections 26 and 25, located about 50 m to the east. The site occupies an area of about 55 m northwest-southeast by 25 m southwest-northeast.

Feature 1 (SE corner- 411374E 5033662N) is a rectangular foundation measuring about 15 ft square, oriented at about 10° and built of uncoursed, un-mortared tabular and blocky sandstone slabs. A few feet to the west is a cluster of concrete chunks. A board fragment lies in the northern half and a scatter of window glass lies along the eastern wall.

Feature 2 (20 m at 90° from Feature 1) is the remnant of a stone foundation currently manifested as an "L" shaped arrangement of uncoursed, unmortared tabular and blocky sandstone slabs, oriented at about 14° and measuring about 15 ft north-south by 20 ft east-west. Near the southwest corner is a 5 ft gap in the wall that may represent the former location of a door. There are a few fragments of boards and posts located a few feet to the east.

The site lies on land homesteaded by Victor B. Malvaney. Malvaney was granted a 320 acre stockraising homestead patent on the south half of Section 26, T4S R45E on August 22, 1927 (GLO 1927). The land is currently owned by Ross and Faye Denson.

Section 36, T4S 45E

24PR1064

Legal Location: T4S R45E, SWNWSE, NWSWSE, WNESWSE, NNWSESWSE Section 36 (irregular section- template aligned on SE corner)

Elevation: 3260-3300 ft

Cultural Period: Prehistoric

Site Type: stone rings, lithic scatter

Description: The site consists of at least two, and possibly three, stone rings and a scatter of flakes measuring about 430 m northwest-southeast by between 50 and 150 m southwest-northeast. The site is situated on the summit of a finger ridge that divides

ephemeral tributaries of Tenmile Creek, an intermittent tributary of Otter Creek and the Tongue River. The stream channel of Tenmile Creek is about 200 meters to the south. Otter Creek is about 1.9 km to the southwest. Vegetation consists of mixed grasses, sage, and prickly pear cactus. Soil appears to consist of sand loam. The site setting is stable to moderately erosive. Surface visibility averaged less than about 50%. The view from the site is extensive and panoramic.

The two definite stone rings are both circular and very well-defined, and both appear mostly if not completely intact. Both include gaps on the east and southeast sides and may also include central hearths. In addition is a possible third ring a short distance southeast of Feature 1. Feature 1 measures about 6 m in diameter in interior dimension (ID) and includes 19 stones. The stones appear well-sodded. On the east side is an approximate one meter wide gap. Just east of center is a cluster of apparent oxidized sandstone that might represent the remains of a hearth. Feature 2 (UTMs- 412294 E 5032318 N) measures about 5 m in ID and includes about 57 stones. There is a gap on the east-southeast of about one meter. In the approximate center is a cluster of apparent oxidized sandstone that might represent the remains of a hearth. Observed artifacts consist of an estimated 100+ porcellanite flakes of all stages. No tools were observed.

24PR1965

Legal Location: T4S R45E, SWSWSWSE Section 36 (and other sections)

Cultural Period: historic / depression era

Site Type: historic road related structures

Description: This site was previously recorded by the USDA Custer National Forest (Berkstrom 2000) This site is a multi-section documentation of CCC built road related drainage structures. It is NRHP eligible by consensus. No additional documentation was made during this project.

24PR2345 - 36B5

Legal Location: T4S R45E, SWNESWSW, NWSESWSW Section 36

Elevation: 3240 ft

Cultural Period: Prehistoric

Site Type: stone rings

Description: The site consists of at least four stone rings and a scatter of artifacts and measures about 120 m north-south by a maximum of about 80 m east-west. The site is situated on a high bench lobe overlooking Tenmile Creek, an intermittent eastern tributary of Otter Creek and the Tongue River. The stream channel of Tenmile Creek is about 300 meters to the south. Otter Creek is about 1.2 km to the southwest. Vegetation consists of prairie grasses, sage, and ponderosa pine. Soil consists of scoria gravels and reddish sand loam. The site setting is stable to moderately erosive. The site vicinity affords excellent views of the nearby valley of Tenmile Creek, and upland areas can be seen for a considerable distance. Surface visibility averaged about 90%.

The four stone rings are moderately to well defined. See also the attached Ring Attribute Form. Feature 1 (10 m at 41° from datum) is a well-defined circular stone ring measuring about 4.2 m in inside diameter (ID) and constructed of about 65 scoria stones. A gap may be present on the northeast quadrant. A possible sandstone billet was observed in association with the ring. Feature 2 (66 m at 24° from Feature 1) is a moderately well-defined circular stone ring measuring about 5 m ID and constructed of about 47 scoria stones. Feature 3 (29 m at 2116° from Feature 2) is a moderately well-defined ovoid stone ring measuring about 4.5 m ID and constructed of about 59 scoria stones. Feature 4 (21 m at 140° from Feature 2) is a well-defined circular stone ring measuring about 5 m ID and constructed of about 70+ scoria stones. In addition to the possible billet noted above in association with Feature 1, approximately 50+ red and gray porcellanite flakes were observed.

24PR2346 - 36D2

Legal Location: T4S R45E SWSWNENWNE Section 36

Elevation: 3325 feet (1013 m)

Cultural Period: N/A

Site Type: Paleontologic

The locale consisted of three small fossil bone fragments, one of which is clearly a vertebra of a reptile. The vertebra body is 215 mm long, 28.3 mm wide and 20.3 mm high. The other fragments, of similar size, was not identified, but appears to be a long bone fragment. The contextual integrity is unknown. The paleontological material may be eroding from an adjacent shale bed on the side of an eroding clay/bed shale knoll.

The fossilized bone, found in the Fort Union Formation, was identified as the centrum of a dorsal vertebra from a champsosaur (Hanna 2004). Champsosaurs are aquatic reptiles that have a body proportion and lifestyle similar to modern crocodilians (Carroll 1988). Champsosaurs survived the K-T extinction event that resulted in the disappearance of the dinosaurs, and occur in Lower Cretaceous through Eocene sedimentary rocks (Carroll 1988; Romer 1966). Although these animals are predominantly aquatic, champsosaurs were not restricted to this type of environment. In particular, females may have been better adapted to a terrestrial lifestyle due to nesting behavior on land (Katsura, 2004).

24PR2347 - 36D3

Legal Location: T4S R45E, SNWSESW, NESWSESW Section 36

Elevation: 3262 feet (994 m)

Cultural Period: Prehistoric

Site Type: lithic scatter

Description: The lithic scatter site, as observed, has an area of about 60 m east-west by 130 m north-south. The site is located on a triangular-shaped, pine-covered hilltop on the north side of the Tenmile Creek (a tributary of Otter Creek) valley. The hilltop has exposures of caprock, indicating that minimal soil deposition can be expected. Cultural

material observed includes a sparse scatter of about 50 primary flakes, core fragments and tested cobbles, all of porcellanite. No tools or features were observed.

24PR2348 - G2

Legal Location: T4S R45E, CSWSWSE Section 36

Elevation: 3260-3380 ft

Cultural Period: Prehistoric

Site Type: stone rings

Description: The site consists of the remains of at least two stone rings, and encompasses an area of about eight by 15 meters. The site is situated on a bench lobe overlooking Tenmile Creek, an intermittent eastern tributary of Otter Creek and the Tongue River. The stream channel of Tenmile Creek is about 60 meters to the south. On-site vegetation consists of sparse grasses, sage, and juniper. Based on pin flag probing, soil consists of a five centimeter thick layer of sand and gravel overlying clinker or sandstone bedrock. The site vicinity affords an excellent view of the nearby valley of Tenmile Creek. The site appears severely eroded and deflated as a result of slope and poor vegetative cover. Surface visibility averaged in excess of 95%. Observed cultural manifestations consist solely of the two stone ring features. No artifacts were observed and nothing was collected.

The stone rings are both rather poorly defined, although the one on the north (Feature 1), appears to form a full circle. Both features appear severely deflated, and the stones are almost completely exposed. Feature 1 (17 m at 325°) measures about five meters in diameter in interior dimension (ID) and is constructed of approximately 13 clinker stones. It is generally circular in outline. Feature 2 (11 m at 325°) is a very poorly defined stone arc that appears less than half complete and is open to the north. The feature measures roughly four meters in ID and is constructed of at least eight clinker stones

24PR2349 - G3

Legal Location: T4S R45E, NESESESW Section 36

Elevation: 3260-3380 ft

Cultural Period: Prehistoric

Site Type: stone rings?

Description: The site consists of one possible stone ring feature with an adjacent scatter of flakes. The site occupies an area measuring about 10 by 55 meters. The site is situated at the terminus of a ridge summit overlooking Tenmile Creek, an intermittent eastern tributary of Otter Creek and the Tongue River. The stream channel of Tenmile Creek is about 150 meters to the southeast. On-site vegetation consists of sparse grasses, sage, and juniper. Based on pin flag probing, soil consists of a thin layer of sand and gravel overlying clinker or sandstone bedrock. The site vicinity affords an excellent view of the nearby valley of Tenmile Creek, and upland areas can be seen for a considerable distance.

The site appears severely eroded and deflated as a result of poor vegetative cover. Surface visibility averaged in excess of 95%. No tools were observed and nothing was collected.

The possible stone ring is manifested as a very poorly defined arc open to the south and composed of about 10-15 clinker stones. The possible feature is about four meters across. The site datum was established immediately to the west of the feature. See also the attached Ring Attribute Form. Immediately north of Feature 1 is a scatter of roughly 50-100 porcellanite flakes, including primary and secondary flakes. The scatter measures about 10 meters wide by 50 meters long.

24PR2350 - LL36

Legal Location: T4S R45E, SNENE, NSENE Section 36 (very irregular section)

Elevation: 3260-3380 ft

Cultural Period: Prehistoric

Site Type: lithic scatter/surface lithic source

Description: The site is a widely dispersed lithic scatter and surface lithic source occupying an area measuring about 300 meters across. The site is situated at the head of an ephemeral tributary of Tenmile Creek, an eastern tributary of Otter Creek and the Tongue River. Soil consists generally of pale reddish brown loamy sand and gravel with widely scattered porcellanite cobbles. Local vegetation consists of generally very sparse grasses, sage, juniper and ponderosa pine. The site vicinity affords an excellent view of the country to the south and southwest. Most portions of the site appear severely eroded and deflated, primarily as a result of slope and poor vegetative cover. Surface visibility averaged in excess of 95%. Observed cultural material consists solely of porcellanite flakes, cores and tested cobbles. Several hundred flakes were observed, along with about 10-15 cores and 5-10 tested cobbles. The material is concentrated primarily on bench lobes overlooking the ephemeral drainage. Nothing was collected.

24PR2351 - 36W1

Legal Location: T4S R45E, ESENE, NENENE, NWNENE, NSWNENE Section 36, and SESESE Section 25, T4S R46E, NWNWSWSW Section 30

Elevation: 3620 feet (1103 m)

Cultural Period: Prehistoric

Site Type: lithic scatter

Description: The sprawling, irregularly-shaped lithic scatter site, as observed, has an area of about 500 m east-west by 330 m north-south. The site occupies an entire ridge top in the extreme northeast corner of the (irregularly) section. The pine-covered hilltop lies at the head of several diverging drainages so it has numerous lobes and fingers extending in all directions. Essentially, the highest part of the landform is a continuous, but sparse deposit of porcellanite reduction debitage. The material probably came from scoria

outcrops on the flanks of the ridge. A few clusters of porcellanite cobbles and gravel are found on the ridge top. The site area is exposed to extreme erosion and has exposures of caprock, weathering shale and residual scoria and silt stone gravel, indicating that minimal soil deposition can be expected. Cultural material observed includes several hundred primary flakes, spalls, core fragments and tested cobbles, all of porcellanite. No tools or features were observed. The site undoubtedly represents a continuum of porcellanite reduction through time, in a collapsed contextual setting. No further work is recommended.

CHAPTER 7. CONCLUSIONS

A total of 124 sites and 90 Minimal Activity Loci (MALs) were identified within the project area (Tables 5-1 and 5-2). This does not include 15 previously recorded sites that could not be relocated. The project area encompasses approximately 7,720 acres. The density of cultural manifestations can thus be calculated at about 10.4 sites and 7.5 MALs per square mile, or one cultural manifestation every 36 acres. Of course this is only an academic calculation because some sites are never found (because they are buried), sites tend to be clustered (e.g., around water) and the sites are highly variable in size (ranging from a few meters in diameter to over 1 km across). Site density computations are therefore useful only for general comparisons. However, it is worthy of note that very similar densities were encountered in a recent (2002) large cultural resource inventory conducted in similar terrain in neighboring Rosebud County. In that project area, sites occurred at the rate of 7.4 and MALs at 10.3 per square mile, or one cultural manifestation for every 36 acres (Meyer and Strader 2003). The BLM's Alluvial Valley Floor Inventory of approximately 4,304 acres included land one mile west of the present study. The BLM study yielded about 12 sites per section and an overall density of about 1 cultural item per 12 acres (Doug Melton, personal communication, October 12, 2004).

None of the sites were formally evaluated for the NRHP during the current project. However, six sites had been previously recommended as eligible for the NRHP. Sites previously determined as eligible are: 24PR599, 24PR593, 24PR596, 24PR597, 24PR591 and 24PR1965. Site 24PR599 was reported to include a stone ring that could not be found during the current project. Site 24PR593 was tested with one shovel test in 1980 that was entirely devoid of cultural material. Site 24PR596 could not be found during the current project. All of these sites, with the exception of 24PR1965 (recorded in 2000) should be re-evaluated under modern standards prior to any anticipated impact. The majority of all of the newly recorded sites should be formally evaluated for the NRHP prior to any action that would impact them.

Several of the lithic scatter sites realistically have no potential for significant research value based upon their utter lack of supporting attributes. These fairly ubiquitous site types are located on or near scoria-capped hills and represent only the initial reduction of porcellanite collected from the scoria talus or surface gravel exposures. These sites lack contextual integrity and are located on eroded or deflated surfaces, often on weathered bedshale or bed rock, and have no possibility of a buried component. Furthermore, this site type typically lacks formal tools, features or intact activity areas.

Most of the sites in the study area could be subsurface tested with comparatively little additional work, since they are typically located in deflated upland environments with minimal soil formation. However, some sites are located in remote areas, which poses logistical difficulties. Potentially buried campsites on terrace settings should be mapped with a gradiometer, in addition to shovel testing, in order to determine the extent of the sites and to locate buried thermal features. Sites containing stone rings will require detailed mapping of the features and substantial shovel testing, and possibly

also gradiometer mapping. A few sites were found that have obvious buried components that can readily be evaluated as having the potential to yield important information about prehistory based upon surface observations. These sites will still require testing and possibly gradiometer remote sensing to determine the overall size and complexity of the cultural components. At least one site, 24PR2317, contains a panel of aboriginal petroglyphs. The panel could be considered National Register eligible under multiple criteria, and might therefore require multiple treatments to mitigate any adverse effects.

In addition to the located sites, a few terrace localities were identified that should be surveyed by gradiometer prior to any mine development because they have a high probability of prehistoric use and have substantial deposition but their surfaces are obscured by vegetation. These are discussed in Chapter 2 and in the site narratives. In the event that a mine plan is proposed, a gradiometer survey should be considered for these landforms.

Table 5-1 in Chapter 5 includes a column that takes into account the variables listed above and rates the relative "Testing Complexity" of each site. The ratings do not necessarily correlate to significance, rather they give a relative description of the effort that will be required to 1) formally test the site for an NRHP evaluation, and/or 2) to adequately define the spatial limits of the sites for purposes of designing a data recovery plan. Additional information, particularly that regarding individual sites and their environments, can be found in the site narratives in Chapter 6 and the site forms in Volume II which contain sketch maps and photographs.

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